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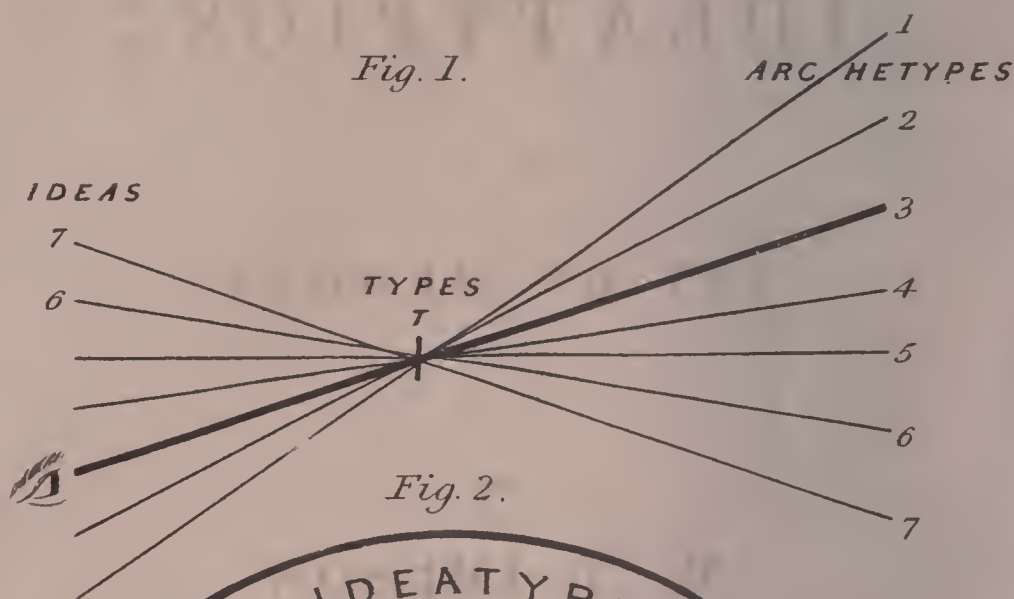


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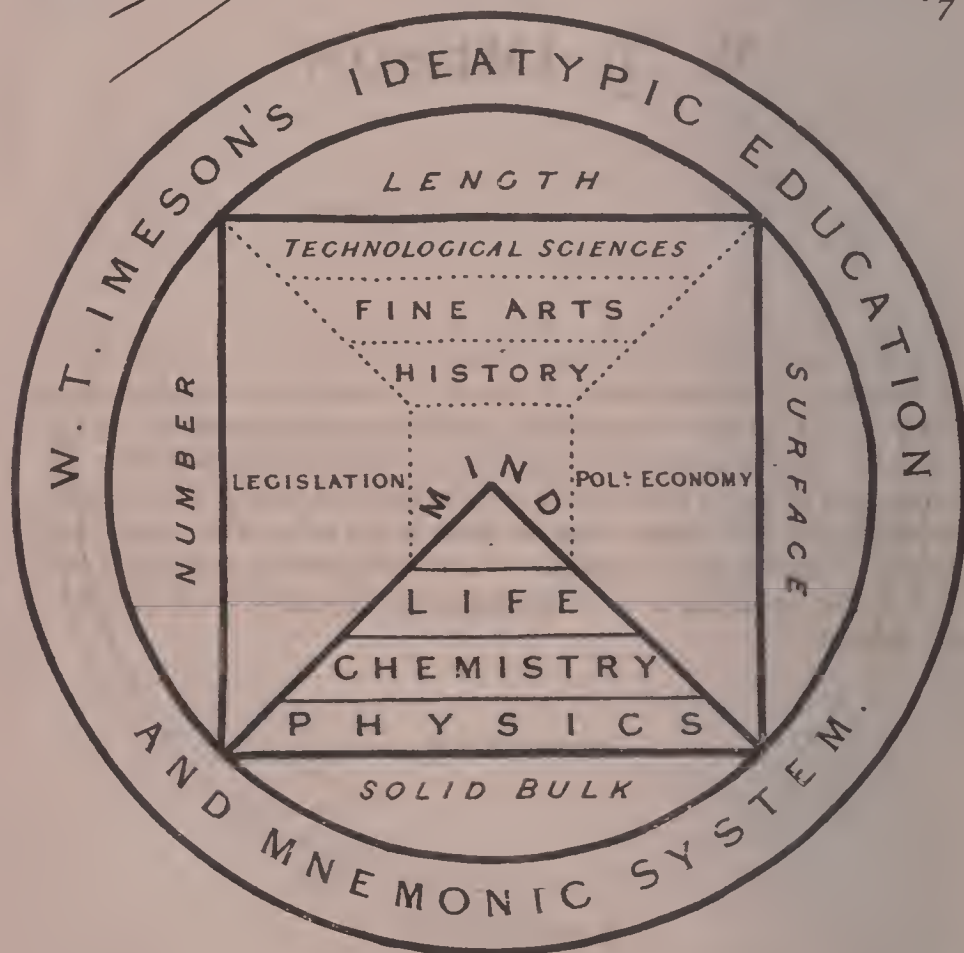


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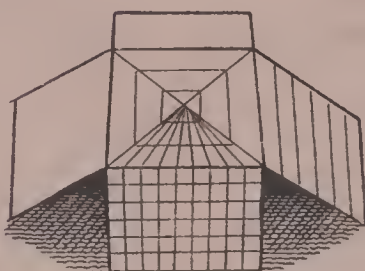


Fig. 4.

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IDEATYPICS;

OR, AN

ART OF MEMORY.

BY
WILLIAM TANNER IMESON.

“He who has a memory that can seize with an iron grasp and retain what he reads — the ideas simply, without the language — and judgment to compare and balance, will scarcely fail of being distinguished. Many are afraid of strengthening the memory, lest it should destroy their inducement and power to originate ideas — lest the light should be altogether borrowed light. The danger does not seem to me to be very great, especially since I have noticed that those who are so fearful of employing this faculty are by no means to be envied for their originality.” — *Todd's Student's Manual*.

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PREFACE.

IN the publication of this Work, I am desirous of making known certain principles of very old date ; also the System I have wrought out of these materials, calculated to lead to surprising results in its application. It would only be deemed empiricism if instances were detailed. One instance, however, may be given. A boy was allotted forty figures to get by memory ; he readily complied with the wishes of his preceptor, and acquired them *perfectly*. On the second morning following, he was unable to say three figures successively : he was then set to the task of acquiring one thousand figures, in the same time, by Ideatypics ; and it was done so effectually that any figure could be adverted to with facility. The impression becomes stronger with time, even without repetition, except that which arises from mental spontaneity, or by way of exercise.

The learned, in every age, as it is recorded in numerous instances, assisted the powers of their mind by certain contrivances, based upon principles of acknowledged value. The desire of being useful in their day and generation, induced some to publish their systems. These aids, however, have been more or less efficacious to others, according to the particular genius, mental character or condition of those who employed them. This circumstance has led me to seek after *general* principles, and to diversify their application, that they might be understood. The highest flight of genius, and the weakest mental act of the simplest child of nature, are not, according to Hazlett, so far removed from each other as men suppose. Yet let no one think that I am about to set the intellectual and the imbecile on the same footing of ability by the *mere cultivation of the memory*.—There will be mediocrity and two wide extremes in every popular mental progress. In this Work, I propose the means of improving the retentive condition of mind, but it is in connection with the *Discipline* of Education, and the maturity of the judgment in that process.

The examples and the exercises are designed to help the understanding and assist the recollection, but *not to supply* deficient powers of thought.

The principles help not only to associate *facts*

and data, but, what a Professor of eminence lately said would be a desideratum, it helps to associate the various political and moral changes, and the more remote causes and effects detailed in History; also the abstractions of metaphysical reasoning. In short, as an Educator, I have endeavoured to treat the subject in its bearing upon general Education. The importance of the subject, and its peculiar mode of treatment, as well as the desire to advance others, must be my apology for sending this Work to press.

In a few instances, there is an introduction of comic associations; but it has been my object, as much as possible, to exclude technicalities, nonsense, and false exercises. In the examples, I have attempted to supply information on subjects that could not be treated of more at length in this Work. In these and the exercises, I have applied the principles to Systematic Tables, Geography, History, Chronology, Languages, Natural History, Botany, Anatomy, Physiology, Chemistry, Logarithms, Latitudes and Longitudes, Weights and Measures, Specific Gravities, etc. etc. There are many other things that might be thought useful, that could not be introduced for want of room.

In applying the System to any subject not adverted to, the reader will generally find some analogous subject to direct him.

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INTRODUCTION.

MEMORY has been well defined by Dugald Stuart as ‘That faculty which enables us to treasure up and preserve, for future use, the knowledge we acquire; a faculty, (he adds,) which is obviously the great foundation of all intellectual improvement, and, without which, no advantage could be derived from the most enlarged experience.’ Any remarks of mine may be spared on the value of this most necessary and excellent condition of mind, when individuals the most gifted and favored by nature speak of the inutility of all labour in wisdom and knowledge, if there be no memory to preserve and use that which is acquired. Dr. Watts says, ‘There can be neither knowledge, nor arts, nor sciences, without memory; nor can there be any improvement of mankind in virtue or morals, or the practise of religion, without the assistance and influence of this power.’ There are some, however, as Locke has observed, that retain the

characters drawn on them like marble, others like freestone, others little better than sand. It becomes, then, an important enquiry, in what way we can best assist the imperfect operations of the mind; for in no other light do I regard a deficient memory than as a result of improperly regulated faculties. Of course, I mean *cæteris paribus*—other things being equal or the same,—because the constitution of our bodies, our organization and temperament, are closely connected with mental action, and produce marked differences, even where there is no marked difference of absolute mental capacity. In this matter, as well as in every thing else, we naturally revert to the sayings and doings of our forefathers, however we may be inclined to make innovation upon those things which they have left us. However disposed we may be, also, under the influence of right reason, to award the palm of great pre-eminence to the moderns in almost every department of human knowledge, we must, nevertheless, acknowledge, there was something extraordinary in the contrivances and results of the mnemonic systems of the ancients, and their local memory.

The foundation of all contrivances which have been, or, perhaps, can be employed to help recollection, is to be traced to the principle of the scheme of Simonides. It is the basis of this which

I have designated "*Ideatypics*," a term which has been considered peculiarly appropriate by persons on whose judgment I can rely, and who were made acquainted with the principle to which the term was applied by me in the summer of 1843.

The leading feature of the whole system detailed in this Work is, to transfer a train of ideas whose archetypes are not the objects of sense, and are therefore of difficult recollection, to another train which we cannot fail to recollect; because the archetypes are not only objects of sense, but objects of sight, which may be placed actually before our eyes, as things with which we are perfectly familiar.

Simonides, so justly celebrated by Cicero and Quintilian, is represented as taking a house, or any other suitable building, in which he might deliver a discourse, and, with every part of which he was supposed to be perfectly familiar, then, beginning at some fixed point, he would proceed round it in a circular line, till he arrived at the point at which he set out. He would divide the circumference of the house as he perceived the subject required it, taking different compartments for different topics, using distinctive symbols, and introducing therein external objects: *e.g.* he would take a ship, as a symbol for naval affairs. He would take the symbol of some current coin, and

actually transfer, or imagine it to be transferred, to some compartment of the building, when he was desirous of recalling financial subjects to recollection. In all instances, he would produce in his mind an hieroglyphical painting of the sense of any subject, which might always be referred to when mentally deposited in some well-known spot.

What we know of the Mnemonics of the ancient Greeks, is comprised in a small compass. They gave the outline, however, for the moderns to fill up. The Romans, as well as the Greeks, studied it with pleasure and success; and many of their feats of memory are recorded. Julius Cæsar was an adept in the art; and Seneca, the philosopher, was well versed in it; he could repeat 2,000 names in the exact order in which they were rehearsed to him. It is said that Cicero, as well as Seneca, never heard any thing material but it was imprinted on their memory. Quintilian speaks of the topical memory of the ancients, and the assistance derived from the walls of a city, a well-known road, or any convenient site, for placing objects. He speaks also of a pretended improvement, which he rejected as trifling, in which the *words* of a discourse were comprehended by constructing symbols for each of them, and referring them severally to compartments.

All the mnemonical systems that have been

promulgated during the last 500 years, have been derived from the celebrated topical memory of the ancients. The Germans, perhaps, more than any other nation, have availed themselves of the advantages presented to them in the cultivation of the art of Memory. To this we may, in a great measure, attribute the circumstance of their being so long considered great authorities in Ancient Literature and the Arts. In the fifteenth, sixteenth, and seventeenth centuries, various continental writers successively published systems of local and symbolical Memory. In 1236, Raymond Lully, called the illuminated Doctor, brought the Art of Memory into notice, after the lapse of ages. The learned gave it the name of the transcendental art. Then we have Peter of Cologne and Peter of Ravenna, both distinguished by their respective systems. In the year 1533, appeared the "*Conceptorium Artificiosæ Memorix*" of Romberch, in which, with many improvements, the various systems previously published were enumerated and detailed. England was not without her share in the honor, when William Fulwood translated Grataroli's work, under the title of the "*Castel of Memorie*." — This was afterwards translated into French.

I think I may justly attribute the extraordinary attainments of many of the learned in the sixteenth

and seventeenth centuries to an art of Memory. As early, however, as the fourteenth century, we read of Englishmen distinguished by attempts to work into system the topical memory of the ancients.

No. 3744 in the Sloane Collection, preserved in the British Museum, is the “*Ars Memorativa*” of Thomas Bradwardine, called the profound Doctor, who was Proctor of Merton College, Oxford, 1325. At the time when this work was produced, learning was, comparatively, little in advance in England. We find, in later times, many distinguished professors of the art at Oxford and Cambridge—men who were said to be profound in their attainments, and who were regarded, on this account, with a sort of superstitious reverence.

Many mnemonical essays were published on the Continent in the 17th century, by Azevedo, Cuirot, Belot, and others whose names are not known.

In 1651, Henry Herdson, professor by public authority in the University of Cambridge, published his “*Ars Mnemonica sive Herdsonus, Bruxiatus, etc.*” in Latin and English; but this was principally copied from *Brux’s Simonides redivivus*.

From the year 1715, when Erhardt and Feyjoo published their respective systems, to the end of the 18th century, Mnemonics did not excite much

attention, through various circumstances. In 1806, in the *Philosophical Magazine*, some notice was taken of a new branch of science, studied in Germany, called by the ancients *Mnemonica*, or the Art of Memory. The following were remarks made upon it:—"We find in Herodotus, that it was carefully taught and practised in Egypt, whence it was brought into Greece. This historian attributes the invention of it to Simonides; but his opinion is refuted in a dissertation published by M. Mongerstern of Dorpat, upon *Mnemonica*. He there asserts that this science is more intimately connected with the Egyptian Hieroglyphics than is generally supposed, and this connection may help to explain them. However the case may be, this singular, but so long neglected art, has re-appeared in Germany with some eclat."

There is also mention made of a promise being exacted from the pupils not to write down the lectures of those who taught it. The account here given, seems to be in reference to M. Gregor Von Feinagle, a native of Baden, who visited Paris about this time, and delivered lectures on his "*New System of Mnemonics and Methods*." This system, although it was open to great improvements, was nevertheless applicable to every branch of science—easy to be learned, and adapted to all ages and sexes. The Count of Metternich and

his secretaries followed the whole course, and gave their testimony to the value of it. The learned spoke of its capabilities and its promise, while many of the public journals spoke injuriously of it, and, with much that was plausible, misled the public; but this arose from the ignorance or venality of some of the journalists, who frequently applaud or condemn as it best serves their interest.

A writer in the *Monthly Magazine*, vol. xxiv. page 105, records experiments on the power of association,—first, with the several parts of his own house, then with other permanent and familiar classes of objects. He says, “I was myself educated in the vicinity of Oxford Street; and the streets running out of that street south and north, I made use of for my own purpose of successive association. The greater the variety of ideas connected with this set of objects, which may be called the associative key, the more easy and the more certain is the power of recollection.” He adds, further, “If I do not hazard a charge of egotism, I shall mention, as illustrative facts, that, by this new art, I once committed to memory, in a single morning, the whole of the propositions contained in the three first books of Euclid, and with such perfection, that I could, for years afterwards, specify the number of the book on hearing the proposition named, and could recite the pro-

position on hearing the number and the book ; and I have, frequently, in mixed companies, repeated backwards and forwards, from fifty to a hundred unconnected words which have been but once called over to me. I may also add, to prove the simplicity of the plan, that I taught two of my own children to repeat 50 unconnected words in a first lesson of not more than half an hour's continuance."

Feinagle's public experiment in England is recorded in the *Gentleman's Magazine*, vol. LXXXI. part 1. and in the *Morning Post* of April 18, 1812.

In the *London Encyclopædia*, we have a curious notice of Todd's system ; but this and all mnemonical publications to the present time, except those of Grey and Lowe, (who substituted letters for figures) seem to be modifications of the same system ; and indeed it would appear, that every method to assist the memory, must be based on combining locality with the subjects to be remembered.

CHAP. I.

IDEATYPIC PRINCIPLES.

AN art of Memory implies a certain education of the faculties to which, in consequence of the many fallacies in education, the teacher seldom turns his thoughts. There is a physical, a mental, and a moral training; and he that would understand either, must enter into a close consideration of its nature and value. Not greater care is required to rear the tenderest flower, than is required to foster the expanding mind: ordinary expressions, however, would not lead us to think so. How often do the intricate workings of the childish mind perplex us. How often are we posed by queries pertaining to the commonest things, while we are priding ourselves, perhaps, on our ability to answer many abstruse questions in science or in art.

The operations of a child's mind are too subtle to be well scrutinized, or at once directed. Hence, parents are generally much better judges of the physical than the mental health of their children; and yet every one feels that he can say something on the teacher's delicate and mysterious craft:

why not prescribe also for our physicians, and help them in the exercise of their vocation? But they are properly qualified, and properly paid for their services. So let the teacher be—the public would be gainers. The teachers and the taught must advance together. The degradation of the teacher is the degradation of the taught.

The different effects perceived in the same class of pupils, shew the need of different appliances; but what the difference of treatment should be, or who is to prescribe, remains a question. Has no one thought that there might be a mode of passing from the “*abstract to the concrete*,” or, *from an abstraction to a type*, in such a way, that the teacher might educate all who are not positively deficient, in much less time than usual, according to the different extent of their perceptive powers?

Pestalozzi and others half advanced the idea, when they introduced the excellent plan of throwing aside the use of mere abstract terms, when a sensible presentation of an object could be made. A few among the ancients and among the Germans perceived that the usual mode of acquiring knowledge was not based on right principles, and not suited to the faculties of mind; for man is pre-eminently constituted to perceive sensible objects: we have not even a knowledge of a mind, apart from revelation, but by the contact of our percep-

tive powers with their proper object. As mind can only operate relatively, it must be in relation to its perceptions, and through them; hence the mind must lay hold of and retain all matters through the perceptive faculties, or it must apprehend abstractions, which is contrary to our observations of the connection subsisting in the several parts of our constitution. It may be said, indeed, that an educated mind can have, apart from the perception of externals, an intimate perception of an abstraction. It may appear so; but "every thing must have a handle," as good Rowland Hill used to say; and every thing abstracted will be more or less apprehended and retained, as it comes into our mind under some imagined form, more or less like a form, or composed of forms that have been first received from the external world, through the ordinary perceptive powers. Our thoughts are thus led to perceive that there is a necessary co-operation of mind and body in all instances. The senses—the brain—and the mind, actively co-operate; and though the mind sometimes appears to work alone, it is because it falls back upon perceptions, previously acquired and retained in the memory. The brain is the organ of the mind; and as there are discovered laws which affect this material organ, in connection with mental as well as physical operation, it is our duty to attend to

them, and to walk as nearly as possible with the design of nature. Nature, through whom we look up to nature's God, has surrounded us with laws, never transgressed with impunity. The physical and organic laws "cast their shadows before us;" so that in the dazzling magnificence of the Creator's power that shines forth in them, we may learn the Divine word that went forth *with* them—"Do these things and live." Creation is a revelation of Jehovah's will to man; and the searcher after truth there learns his imperative duty of obedience to every physical and organic law, or he pays the price of his neglect.

The equally imperative laws of mind, whose functions are manifested to us through physical organs, have been disregarded, because their effects are less easily traced, and less evidence of their certainty is manifest. Yet, can we suppose there is less certainty in the operations of God's laws, as exhibited to us in the manifestation of mind, than there is in the manifestation of life through material organs? Can we think that the connection between the brain and the external world, admits of less certain laws than any other connection subsisting between matter, and in the connection of matter and spiritual essences? Can we, by anything like reasoning, arrive at the conclusion, that we verge upon something that is wild

and extravagant—that owns no law, or is superior to all law? Mind *must* be subject to Omnipotence, and its operations certain; for it is subject to an influence, that, in no instance, directly or indirectly, admits of “variableness,”—to an influence, that, in no instance apart from the miraculous, manifests itself to man, except through the medium of a determinate channel—a steadfast law.

These remarks apply to the present system of education, which is one of incessant mental toil: all the soul’s energies are expended on the mere attainment of knowledge, without any time for subsequent useful application of it. The fagging system presents us with perhaps one eminent man amidst the mental and physical wreck of five hundred. In these remarks, I do not mean to depreciate application, but to speak of the waste or destruction of the mental powers, in misapplied or excessive toil.

The distribution and arrangement of power is well understood by machinists. There is with them no voluntary waste nor prostration of strength: the laws of the Creator are sufficiently apprehended and attended to. The work done by them is not the worse for being done in a fraction of the time once employed: on the contrary, there is greater precision and greater certainty than ever before attained. He who understands this, and has

learned some of the conditions of his own economy from Coombe, Brigham, and others, will at once perceive the value of the proposed distribution and management of mental power as detailed in Ideatypics. In referring to the necessity of a teacher's acquaintance with certain principles, I do not mean that he should enter upon the study of Metaphysics, or dive into the subtleties of Locke, but that he should practise Education as an art, and follow it up as an inductive science,—that he should know the faculties and their objects, and the way in which nature will be most likely to assist his endeavors. For this purpose, I have given a classification of faculties, which is to be considered apart from every system, whatever its name or tendency, and tested by its own value, as the result of observation.

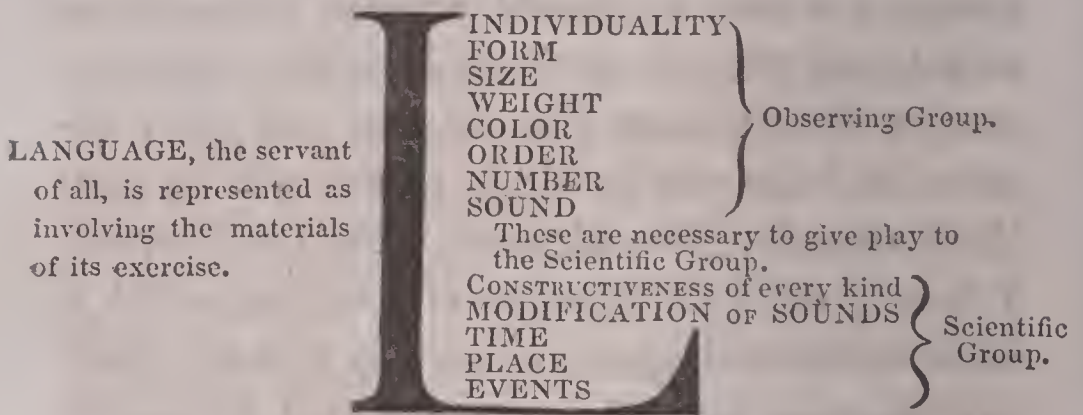
In attempting to give the most prominent simple faculties, and their modes or states, I shall be furnishing a starting-point, and a basis for future remarks.

I have presumed to differ from Locke when he classifies certain mental conditions as faculties; and I have no doubt that, by and by, many will presume as I do.

I recollect that, in a Court of Law, Dr. Elliot was decided to be insane, for asserting that the sun was inhabited; yet only eight years after-

wards, the same opinion was expressed by Dr. Herschell, with great applause.

There are certain powers belonging to us, that may be called the Media of Perception, whose ready servants are the senses, and who stand in the way of these and the powers of reflection. Whatever our opinions may be, we must acknowledge that we have an observing group of faculties.



These primitive powers that help us to form simple ideas, are all served by Language, that finds in these two groups the materials of its exercise. It is a delightful task indeed, to observe the gradually manifested powers of a child as it applies language to the objects of the faculties. It should lead us to reflect on the laws of mental manifestation, that we may apply the principles in all our efforts to educate or improve the memory.

There is a group of feelings that come into play in the exercise of the observing group.

| | | |
|--------------|---|---|
| Domestic | } | Group of Feelings that belong to human nature. |
| Preservative | | |
| Prudential | | |
| Regulative | | |
| Imaginative | | |
| Beneficent | | |

The whole are, more or less, influenced by reasoning faculties, by which we are led to discover, reflect, and decide upon

| | | |
|------------|-----|---------------|
| Cause | and | Effect |
| Similarity | ,, | Dissimilarity |
| Congruity | ,, | Incongruity |

I might call these three faculties, with more effect, the Causal, Synthetical, and Analytical powers of the mind. It was necessary that I should speak of all the faculties, that the wide range of Memory might be apprehended, and the relation I have assigned it, in not calling it a faculty, understood.

There are *states, conditions, or modes* of operation of the faculties, that are usually called faculties, but erroneously. These we must attend to.

1. ATTENTION.

Attention is a mode—a state—not a faculty. We must produce this state, and promote attention, by what Nature or Art has to present, directly connected with any subject, or, by a type; as, Science, by books; Virtue, by a crown interwoven with laurel, &c., or any more appropriate

symbol. By this means, the senses and the observing group are exercised, and all the necessary powers employed, instead of a part.

2. PERCEPTION.

Let the first part be well performed: the second, which is Perception, follows, in greater or less power, as a result arrived at by the proper activity of the faculties. Scarcely any description is now given in a publication without pictorial illustration; and, in the education of children, the value of pictures has been long understood. The first progress of a child's mind is visible in its perception of similitudes, either in an object that has a real or fancied resemblance to a familiar object, or as a type, more or less like the prototype in the child's mind. Every one's faculties have within themselves, a connexion and mutual action, which we designate Association.

3. ASSOCIATION.

This is an active condition or mode of operation of the faculties that we shall have to speak of more at large.

4. JUDGMENT.

This is an attribute of all the faculties, implying discrimination. Each faculty discerns the limit of its own function; and each perception takes, as it were, its own distinctive marks and boundaries. Not any two perceptions, perhaps, are found

alike in any two minds. To improve the Judgment is a most important point, and never ought to be lost sight of in improving the Memory.

We see, then, from what has been said, that Association is a perceptive condition or mode of operation; and Judgment an attribute of the faculties; and that Perception is a condition or mode of operation; and that all the conditions are alike improvable states; and that MEMORY, the last of the conditions, is most cultivated *when all the mental conditions are attended to*.

We shall enlarge upon the different principles of this System in relation to these conditions of mind.

CHAP. II.

ASSOCIATION.

My object throughout this Work is, to assist the enquirer in directing the faculties of his mind, and to aid him in search of that way of regulating them which is most according to nature—most easily deduced from first principles, and which leads to the best condition of the mental powers. I propose, however, to give a few general remarks, before proceeding to particular Association.

Every individual has a different mental portraiture—if I may use the term,—a differently modified observing power, or perceptive condition of mind; and this gives rise to the various associated forms or notions, which are known to exist in us all. We possess the same primitive powers of mind, but in different degrees; hence different treatment is needed, and different modes of educational process should be employed to draw out the one talent, and regulate the multiplying power of the five. I have, therefore, endeavoured to adopt general principles with a diversified application; because we have general associations, as those in connection with the color of the sky, etc.; while

particular associations, as those of heat and cold, etc., will have most to do with our own particular ways of thinking, constitution of mind, and temperament.

Let the letters I, C, F, S, L, E, in all parts of the figure (vide Pl. 1) be used for the words Individuality, Colour, Form, Size, Locality, and Eventuality. Let the different circles represent different degrees of mental power, in which there is denoted the tendency of one mind to observe in the order of I, C, F, S, and so on in other minds in encreased degree, as represented in the succeeding circles. Let the different squares also represent different degrees of differently-modified powers, in which there is also denoted a tendency to observe in the contrary order of the letters I, S, F, C ; I, L, S, F, C, etc. As there are different degrees of activity in the faculties also, denoted by some letters being before others, in a circle or square,—that which denotes the most active, coming first, we see the difficulty of representing anything abstract, though apprehended by ourselves, that shall sufficiently strike many minds, or even arrest their attention, unless presented under some tangible form, by which one mind shall draw forth the less active or less prominent faculties of other minds. For instance :—the color of that building is a striking point of representation, to which we have sup-

posed the more or less active faculties of each to be drawn, as represented by the lines from c to the building. You may draw the lines to any other letter, and pursue the same mode of representation, with reference to form, &c. The Color, Form, &c., of this building, may be a medium through which much information may be imparted with *certainty*; because it brings the same faculty in each first into play, and we are not involved in the absurdity of expecting a pupil to think well about, or understand that which he has had but little tendency to observe, either from little exercise, or small powers of observation. Our way, then, of proceeding with a pupil is manifest: we must place him in a way to receive the simple ideas that are requisite. The business of the Educator is, to furnish a type, involving the elements of his own ideal abstractions, or associated forms, or notions, that he may wish to communicate. It must be a type, almost or really tangible—the representation of his own compound idea; under cover of which, he shall best communicate knowledge, and fix it in the memory of another. All the powers will be employed under such an arrangement, and there will be a passing from that which is indefinite and indeterminate, and open at every point to error, to that which is definite and determinate, and certainly known. It will occur

to most of us, that the notions of men will be more or less definable—more or less approaching to the perfect notion, or its sign—more or less comprehending the requisite number of simple ideas, as the individual has more or less travelled or observed and thought of things, or been instructed in the right use of his observing faculties, so as to enable him to discourse of form without the existence. This being so, it will be found that we shall make most advances with those who possess the greater number of right notions of things. I have not forgotten those whose knowledge of this Art is to be derived from this book alone. I have reserved the next Chapter for Particular Association.

The use of similitudes or types, every society indirectly acknowledges. The business of life is comparison, and some of man's mightiest movements have hinged upon feelings arising out of it. The aspirant after glory sets up his pattern; the shadowy phantom of his mind is embodied, and moves before him as something almost tangible. The poet, that revels in all that is bright, shadowy, and indefinable, brings within the range of our mental vision enduring forms, enshrouded in what had before spurned the shadow of an outline—even all the bright fancies that move out of his glowing conceptions of nature. Thought loves the companionship of kindred thought; and though

ages intervene, each searches out his own, and clings to it as retained in some type that any other dress of language would for ever hide from our understandings.

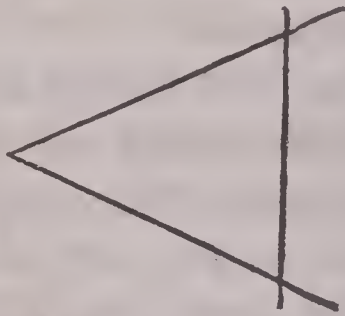
Among the different causes that have promoted the civilization of man, there is none, perhaps, so fruitful as the invention of the alphabet, or idea-typed sounds. It would be interesting to trace the progress of language in connection with the march of mind; but it is foreign to our subject. Oral language, no doubt, originated in an attempt to produce a type of sounds, recalling absent objects and the things connected with them. Sounds afford a vast number of symbols. In common life, there is a transfer of sound from particular objects to the expression of abstract qualities, governed by certain principles of association. The reader will, no doubt, perceive that I am drawing principles that are afterwards applied, either in a direct or reverse form, from practices that have been, in part, sanctioned by long usage, yet employed without system. Though less convenient and less valuable than oral language when once invented, a more direct and simple language was first used—more easily contrived, and better understood, viz. the language of pictorial symbols. Sound dies, and has no perpetuity; and tradition is only the echo of the voice of the past. A pic-

ture on the sea-sand would outlive the sound of the human voice; and more favorable circumstances would preserve a picture for ages, when tradition herself had died away. To represent visible actions and visible objects, would be an easy affair; and signs for abstract qualities might be obtained, as in sounds, upon the principle of association—turning to account the already existing language of sound, rather than form a new series of associations. With this idea, I have avoided much that is arbitrary in Mnemonics, with great advantage. Ideatypics is an archway over Lethe's stream: one butment is the language of sounds, the other is the language of pictorial symbols; both stand out of the stream; neither, of itself, gives a way over.

Nothing can so well convey an idea of an ox, as the picture of the animal, or, to save time, its head. A lion, or part of one, might refer to abstract qualities, as in the case of Richard I. the lion-hearted. This kind of symbol, however, must be subject to regulation, so as to preclude that unassociated individuality of objects, and comparative difficulty of reference to them, which we might find in attempting to remember the Hieroglyphic Bible, which was devised to aid the memory of the young. In the first Alphabets, the most sober-minded can see certain resemblances

to things. *Aleph* means an ox. *Elephas* of the Latin, Greek, and English, seems to be derived from this Hebrew name; but original sense is often lost in the secondary. *Aleph* was used in Syria in connection with the elephant, and came to the western nation so. What is remarkable, the Romans called the elephant the *Bos Lucas*—the Lucanian ox,—as if referring to the source whence derived.

We have stated, the most simple way of representing the ox, would be by a picture of its head and horns; and, it appears we have it in fair proportions in the Phœnecian character. The ox' head, two horns, and ears are seen when the figure is turned.



Taurus, the bull, has for its *sign* in the Zodiac, a similar figure. We might extend the subject to a consideration of Egyptian Hieroglyphics, but it is more convenient now to pass to the consideration of Particular Association.

CHAP. III.

ASSOCIATION—PARTICULAR.

OF the five modes of operation, states, or conditions of the faculties—Attention, Perception, Association, Judgment, and Memory,—I shall take Association, and shew my several modes of procedure.

1.—The first great principles, or precepts, are, Attach the known to the known, and pass from the known to the unknown, by something intermediate, so as with the one to think of the other. We shall presently explain this, and give many examples.

Something intermediate was spoken of by Willis, a fellow of Magdalen College, as early as 1661. In his *Mnemonica*, a very rare book, published in London in the first year of the reign of Charles II. he speaks of linking two ideas—two known ideas—by association; or transferring the action of one idea to the other, which he has appositely illustrated. From this circumstance, then, of calling up one idea whenever another is named, (and this we are enabled to do from transferred action or site) I have adopted the term TRANSFER, as one of general application.

As an illustration of this : If I want to connect the words *washing* and *clay*, I at once imagine the clay to be made into a bowl, and the washing to be done in it ; by this means, I have transferred an act that binds the two ideas in such a way, that whenever one is mentioned, the other also comes to mind. It appears to me, that every object is a centre-point to a crowd of objects ; that each object is, in fact, a centre to others that serve as centre-points ; and that each mind has in it these groupings, as circumstances have more or less presented them.

If I take it as an agreement, that a chair, or any article, has attached to it certain points, and I locate on these points, as I shall by and by shew ; not using mere arbitrary places, as some do, producing a uniformity that destroys the object aimed at ; but points which belong to the ordinary shape of the article : I can enable any one to employ them to great advantage. In addition to these natural points, there are objects and circumstances, associated with the whole, that may serve a most important end in acquiring knowledge.

Every abstract has its concrete : there is no mental conception that does not attach itself, more or less, in idea to some visible form, which the mind of man naturally and immediately presents. Each individual, therefore, may supply himself

with associations, more appropriate in his own view than I have given in my examples. This is expected of the reader: my business is to give a proper direction to the mental powers, and leave each one to his own peculiarities.

If a man hear the relation of a naval battle, does he not presently seem to behold the things obvious in such matters? If mention be made of mustering an army, does not the hearer form in his mind the images of the field? The natural action of the mind is clear; and ought to be attended to.

I have been careful to give no precept which nature herself has not dictated, with a view to imprint ideas more deeply in memory. In Chapter IV. I shall give a method of bestowing them methodically in some place, lest they be forgotten, through light apprehension.

A great objection, sometimes raised against an art of Memory, is, that there are two things to be remembered for one. This objection is not worth considering, if by the aid of any art, two things can be *better* remembered than one. Objections have always been found against every department of knowledge, and its treatment; and such is the imperfection of our powers, that this will probably always be the case: yet much of the objection, says a writer in the London Encyclopædia, made

to Mnemonics by some of the learned, has been to prevent its becoming a "handle for the vulgar."

In many of my methods of association, however, the objection, that there are two things to be remembered for one, rarely applies; for as in an optic lens, there is a concentration of rays to a central point, so in the typical lens, &c., of which I am about to speak, there is but one prominent point, in which all the information centres, and which is the chief and proper object of memory.

That no one may mistake the purport of these examples and exercises on Association, I would add, there appears to me to be three kinds of Memory—general, particular, and associative.—The first has been possessed in a remarkable degree by many distinguished men. They remembered every thing to which they turned their attention. Others have possessed only a particular memory. Eulur could recollect figures, and work them to an amazing extent in the lecture-room. La Grange, equally eminent as a mathematician, always broke down in his attempts to recollect the figures of a simple process: he generally left his pupils to finish what he began. Some have remembered words; others have retained ideas.—There is another kind of memory, which seems generally predominant in all, yet employed to a great extent ignorantly; I mean the associative

kind, the powers of which appear to me to be inexhaustible. Cuvier is said to have possessed a general and particular memory of the highest kind; yet he is found to have *associated* his tables of Natural History, and thus to have raised for himself a lasting monument.

I wish the reader to attach things that he does not know to something that he does; so that when he thinks of one, he shall think of the others.—According to the nature of the ideas in myself and others, and the similarity of our notions, will our mental operations correspond, and the full advantage of my associations be clear to them. Those whose habits of thinking are quite different to mine, may nevertheless find in this Chapter of Association, such helps to what appears to be a constituent part of our nature, that it may set them thinking for themselves.

A Systematic Arrangement of the several Modes of Association included in

1. The connection of the known idea with the known.
2. The connection of the known idea with the unknown.

1. Associate the known ideas with the known by

TRANSFER $\left\{ \begin{array}{l} \text{SCRIPTILE} \\ \text{DIRECT} \\ \text{COMPOUND (SCRIPTILE and DIRECT)} \end{array} \right.$

in *three primary cases*, or relations, as follow:—

Case I.—In the Transfer of Ideas known apart, whose archetypes*, one or both, are objects of sense.

Case II.—In the Transfer chain of Ideas known apart.

Case III.—In the Typical Transfer of Ideas, whose archetypes are known apart, and which are not objects of sense.

In these two Cases, TYPES are used for the Archetypes, consisting of Forms, Letters, Numbers, Sounds, Colors, &c.

EXAMPLES.

CASE I.

SCRIPTILE. 1 Q.—Associate MARBLE with GRATITUDE.

An.—On the white surface of the Marble, I write *Gratitude* in black letters.

DIRECT.....2 Q.—Associate BEAUTY with SANDY PLAIN.

An.—There is a positive and negative Association here: for instance, we can say, A Sandy Plain presents no beauty to the eye; or, we can say, An oasis is a spot of beauty in the Sandy Plain.

COMPOUND. 3 Q.—Associate CÆSAR and his expression, “I came, I saw, I conquered,” with TREE.

An.—Let Cæsar be carving the words, “I came, I saw, I conquered,” on a Tree.

* Archetype is the original of a copy. Every idea in the first instance, is the perception of something without us. Every thing external, that impresses the perceptive faculties, is an Archetype.

EXAMPLES. Case II.

1 Q.—From an old MS.* associate the following :—
 “MAN, HORSE, STONE, PIG, TREE.”

An.—“Let the Man be on horseback, the Horse champ-
 ing a Stone, which sends forth sparks that burn
 the Pig, and cause him to run so as to overturn
 the Tree.”

In this way we may emulate the Mnemonical
 feats of old, and repeat 2,000 words, like Seneca,
 on once reading them.

2 Q.—Associate RYE, WINCHELSEA, HASTINGS, PEN-
 HURST, LEWES, SEAFORD, BRIGHTON, HORSHAM,
 ARUNDEL, PETERSFIELD, TROTTON, PETWORTH,
 BOGNOR.

An.—Amongst the *rye* I dropped a *winch*, and *hasting*
 to find it, I *lose* my *pen*. The *sea* in front, by
 its *brightness*, startles a *horse*, which runs *round*
 the *field* into a *peat bog*.

I left out the word TROTTON, to shew my mode
 of combining the *scriptile* and the *direct* transfer.
 To introduce this, suppose the horse to have a
 horse-cloth, and written on the corner the word
 TROTTON. Carry the actions and the objects in
 your eye, and you may *read* off words so as to
 remember them. I have taken one of the most
 difficult associations, and preserved the order of
 the words, as given us by Chambers (except in one
 instance), to shew its application in that particu-
 lar way when needed.

* Watson's, in the British Museum.

3 Q.—Associate CLASS, ORDER, GENUS, SPECIES.

An.—As I only want to know the order of these words,
I associate the initial letters, and make the word
COGS.

EXAMPLES. Case III.

1 Q.—Associate JUSTICE with WISDOM.

An.—I place an OWL for WISDOM, on the shoulders of
JUSTICE, as she is generally represented with
SCALES.

2 Q.—Associate THOUGHT with INFINITY.

An.—A flash of LIGHT (THOUGHT) reveals to me an
INTERMINABLE OCEAN (INFINITY).

3 Q.—Associate DOCTRINE with EXERTION.

An.—I think of an EXERTION made to propagate a
DOCTRINE.

The last examples, in connection with Locality, apply especially to the association of Sermons, Speeches, Poetry, Prose, &c. &c.

We see there are many ways of associating, one of which will always present itself to the mind. As this is one of the finest exercises in which a pupil can be employed for the production of original thought, and the improvement of the judgment, I shall give exercises which may afterwards be extended.

EXERCISES. Cases I. II. III.

Q.—How would you associate —

1. *Grass and wealth?*
2. *The pride, passion, caution, and simplicity of HENRY II.?*
3. *The profligacy, haughtiness, and tyranny of WILLIAM RUFUS?*
4. *Portreeve or bailiff and the title of mayor?*
5. *The crime, subsequent distress, and final destruction of King JOHN?*
6. *Propugn and to defend?*
7. *Categories, substance, quality, quantity, relation, action, passion, when, where, position, habit?*
8. *Synod and Church Assembly?*
9. *Economy and management?*
10. *Domesday-book and surname?*
11. *The abrogation of the Game and Forest Laws by STEPHEN, and the latter's physical and mental capacity for government?*
12. *Geoffrey of Monmouth and William of Malmsbury, contemporaries?*
13. *Unlimited ambition and a vindictive spirit?*
14. *The progress of literature and home improvement in HENRY II.'s reign?*
15. *How would you associate with HENRY VIII. the bishoprics he erected, viz. Westminster, Peterborough, Bristol, Oxford, Chester, and Gloucester?*
16. *How would you associate HENRY VIII.'s six wives in their order and the particular deaths they died?*

2. The connection of the known idea with the unknown.

The mind passes from the known to the unknown by

| | | |
|----------|---|-----------|
| TRANSFER | { | SCRIPTILE |
| | | DIRECT |
| | | COMPOUND |
| | | PHONETIC |
| | | LOCAL |

in *five* primary cases, or relations, as follow:—

| | | |
|-----------------|---|-------------------------|
| Case I. TYPICAL | } | LENS or LINK and CHAIN. |
| „ II. PHONETIC | | |
| „ III. LITERAL | | |
| „ IV. SYMBOLIC | | |
| „ V. CHROMATIC | | |

The term *lens* refers to the focus (vide FRONTI-PIECE, Fig. 1.) as it were presented to the mind in each division, where there is concentrated many unconnected parts of knowledge. The term *link* applies similarly; several of these form a *chain*.—The five divisions I shall explain severally, and illustrate by examples, so that the mind will readily fall in with each operation, and employ it with the utmost advantage.

Case I.—In the Typical Lens the mind brings together two or more types, by TRANSFER SCRIPTILE, DIRECT, &c. &c. (vide Fig. 1, FRON.)

Case II.—In the Phonetic Lens, &c. sounds are transferred, or sound is the principal matter of memory connected with the transfer.

Case III.—In the Literal Lens, &c. a *letter* most connected with the subject is the assumed form to which there is a transfer, and with which many things may be connected or embodied. The rules of Syntax are best associated with the letters, as a multiplicity of objects only serves to make the assumed letter more distinct, and reference to it easier.

Case IV.—In the Symbolic Lens, &c. symbols, or less distinct types, are used.

Case V.—In the Chromatic Lens, &c. colors are employed.

If I do not make these distinctions, which are really easy in practice, and instead of them merely speak of Transfer in association, leaving the pupil to apply the principles as he pleases, it will induce perplexity in his mind, because he will be ignorant of any link or chain to be used: all he has to do now is, to select, as he may need, one of the modes detailed, or modify several, as it best suits his peculiar turn of mind.

Suppose there is in the mind the idea of an Archetype; then, to this known Archetype or its substitute, a type, there is a transfer to be made of matters of study, known or unknown, so that they can always be referred to. The Archetypes are brought together sensibly in the TYPES or TYPICAL LENS, (I use this term for popular purposes,) so that they can be made objects of sight,

if you please, as well as objects of imagination. As in the real lens there is a concentration of light, which goes to the formation of perfect images, so in the TYPICAL LENS there is perfect distinctness, besides the concentration of knowledge, and the gathering together of points of information, that students know not where to find systematically, but which are brought forward frequently after a sort of blind search in the understanding.

A simple illustration, applicable to all the cases, is given in the Frontispiece (vide Fig. 1). Suppose ARCHETYPES 1, 2, 3, 4, 5, &c. to be different in their nature, or to be things, &c. *out* of ourselves that produce ideas *in* ourselves. These are supposed to be brought, under some form, to a central TYPE, marked T, (which I have called a lens or link,) so as to be received in a concentrated form there, along with the known idea, which is represented by a line darker than the rest. By this contrivance, fifty or a hundred accessions may be made to one idea, and so connected that, instead of fifty or a hundred unconnected ideas being received into the mind as at IDEAS 1, 2, 3, 4, &c., they are all received through the medium of one known idea, which is represented by the dark line passing directly to the eye.

This concentration of knowledge is a distinguishing original feature in this system. We may

express what we have said above in other words. The ideas in the mind are brought together as it were to a focus in mental perception as the mind looks on the Literal or Typical Lens, &c., and through the associated forms in it, to the Archetypes, which are the originals, the things to be remembered.

EXAMPLES to Case I.

1 Q.—Suppose CK to stand for 2, and R, the initial letter of RICHARD, prefixed, to make the word ROCK. The vowel O being of no value. Then, using this as a symbol or type for Richard II., how would you associate the events of his reign with it?

I should suppose a large rock before me in the sea. My first idea would be, that I should PUT NO ONE THERE. By these letters, further on, I find the date of Richard's accession, 1377. Using the rock as a centre point, I imagine the king to be mounting it on a horse *richly caparisoned*—to denote that he was fond of ostentation, as well as to refer to the sorry spectacle he made with Bolingbroke. He is *fearful* of falling; to denote his *timid* disposition. The horse *champs* the bit; to denote the first appointment of a *champion* at the coronation. He is an *admirable* rider; to denote the first appointment of *High Admiral*. He wears a *long train*, a *piked head-dress*, and *shoes fastened to the knee*; to refer to the *fashion of the times*. He has a *dagger* in his hand; which refers to *Walworth* the Lord Mayor and the *City Arms*: on the dagger is stuck a *card*; which refers to the invention of

cards in France.—Thus I continue, till I have associated the whole history; and then once looking over and locating the picture, enables me to retain it.

It is sometimes advantageous, as I said before, to put a subject in more than one case; as Chronology, for instance, in Case I. and II. &c., Typical and Phonetic, besides using localities. The last we need not yet speak about.

2 Q.—How will you associate the following Chronological Table?

| | |
|--|------|
| Dr. Doddridge died | 1751 |
| Antiquarian Society incorporated | 1751 |
| Lord Eldon born | 1751 |
| Chatterton the Poet born | 1752 |
| Earthquake at Adrianople | 1752 |
| New Style introduced into England } Sept. 3rd | 1752 |
| Marriage Act passed | 1753 |
| Bishop Berkely died | 1753 |
| Mansion House built (cost £42,000.) | 1753 |
| Society of Arts instituted | 1753 |
| British Museum established | 1753 |
| Earthquake at Cairo & Constantinople | 1754 |
| Fielding died | 1754 |
| Earthquake at Lisbon | 1755 |
| Mrs. Siddons born | 1755 |
| Montesquieu died | 1755 |
| Minorca surrendered to the French | 1756 |

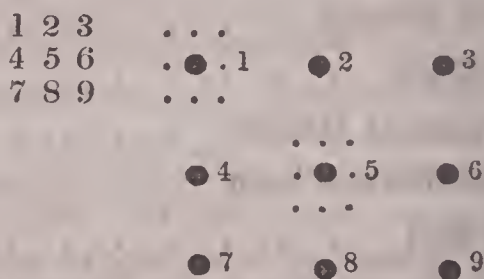
| | |
|---|------|
| Collins the Poet died | 1756 |
| Calcutta taken by the Nabob of Bengal | 1756 |
| Oswego taken by the French | 1756 |
| George Vertue the Engraver died | 1756 |
| Battle of Prague | 1757 |
| „ „ Plaissey | 1757 |
| Admiral Byng shot | 1757 |
| Battle of Breslau | 1757 |
| Siege of Olmutz | 1758 |
| Goree taken by Commodore Keppel | 1758 |
| Allan Ramsay died | 1758 |
| Horatio Lord Nelson born | 1758 |
| Battle of Minden | 1759 |
| Wolfe killed | 1759 |
| Earthquake at Balbec | 1759 |
| Professor Porson born | 1759 |
| Handel died | 1759 |
| Admiral Hawke defeats the French fleet | 1759 |

2 *An.*—This is not a difficult task, although so many facts are purposely inserted in the same year. I should first select *one* room. This is enough for 100 years, as we are told further on in this work; or I should take a certain figure, a square, for instance, for one century, with 9 points in it. A sheet of paper may then contain the events of 100 years, and be hung up in some conspicuous place.

In the fifth or central point of this square, or any other figure that may be used, I place the events of the 55th year just in the same way as I should place the 65th year on the 6th point of the figure, or the events of the 75th

year on the 7th point of the same figure. Then, round about each of these central points, or the objects placed there, I associate all the events of the 9 years that belong to each point.—The tens are associated together in some external part, or figure, or on the ceiling if a room be used, as will be shewn in the Chapter on Locality. The years one to nine are managed in the same way, so as to form one comprehensive whole of each century.

I then suppose the fifth point, that is, the place for the 55th year, as well as the others for the 75th, 85th, &c., to be surrounded by points, 1, 2, 3, 4—6, 7, 8, 9, as here shewn in the small points surrounding the larger.



Those of the fifth point answer to the several years 51, 52, 53, 54. The centre is 55. Then 56, 57, 58, 59.—Now proceeding to associate with types of forms and sounds, I give for the 55th year's facts the following:—The *earth quakes* under the *lisp*ing child that *sits* on the *mountain*. I make a sketch of this in the centre.

In some of the more admired modes of remembering Chronology, we find a *phrase* used for *one fact*, and the initial letters of some of the words of the phrase give the date. In such instances, however, the advantage of having a phrase somewhat in keeping with the subject, is not to be considered, while the difficult task remains of remembering *the order* of many

words. For a thousand facts, there would be required, at least, four thousand words. In what I propose, there is a *ready* and *instant* reference to a fact that *locality* alone secures; besides this, there is wanted generally but *one* word for each fact, many contemporaneous facts also may be put together, and the words which are the *types of facts*, taken in *any order*, with the same result. I want the reader to bring the *objects* before his mind; by this means he will always come at the *words*. This is the secret. He need not take the words as I have associated them, nor try to remember them, but take the words *earth quakes, lisping, child, sits on, mountain*, for the facts in the year 55; or take nearer types of the archetypes, and associate as he pleases, find *the place* for them, and *delineate* them there. Any rude sketch of his own will serve.

Whenever an object is inanimate and without action, it refers to death. Whenever an object is in action, or has with it some explanatory word, as above, in the phrase, the "child that sits," it refers to a birth, as indicated by the word *child*. Although the sound of some of the words I have used is not quite like those words that are to be recalled, yet it will be found, by experience, to be quite enough on almost every occasion, from the circumstance of their being associated together. The rest follow in order, and their application will at once be seen by reference to the Chronological Table.

51. (1st place)—A sapling *elder-tree*, near it an *anti-quarian* reading *Doddridge*.
52. (2nd place)—A *new stile*, upon it one with *chattering* teeth, trembling at the *dry and quaking earth*.

53. (3rd place)—A *marriage* in a *mansion* that contains a *museum* with *artists* working old *burnt clay*.
54. (4th place)—With *care* and by *constant* upturning of the *earth*, the barren *field* becomes fruitful.
56. (6th place)—The French do *as we do*, for I *calculate* it is only the *minority* whose *virtuous* deeds add dignity to their *calling*.
57. (7th place)—He prefers *being shot* in the *battle's press*, than *placidly* to perish by the *plague*.
58. (8th place)—He bought a *ram's head* of almost full *size*, for a new *nail* and a *couple* of *cowries*.
59. (9th place)—His *poor son* found *mint* and *bulbous* roots, a *slaughtered wolf*, and a French *hawk*, near an *ant-hill*.

When quick at putting the figures in their proper places, one can almost read off Chronology so as to remember it. I need not remember the order of the words: every end is answered in calling to mind the objects, the qualities, the actions, and the places. I can readily recall several facts from sometimes one object associated with the central point.

Thus may the numerous facts of 100 years be brought round ten central objects, which are placed in certain relative positions, either in a room or on some object, and thus can we recall to mind every fact with its date.

3 Q.—Suppose I have other facts to add to those already given, for instance, Guadaloupe surrendered to the British, 1759; the Battle of Bergen, also in the same year: How would you introduce these?


3 An.—I should make of the words Guadaloupe and Bergen, *Gaudy bird*; because in 1759, we have *French hawk*, with which it can be readily associated, and the mind receives an impression that is not soon lost. If one of these facts be recalled, it is hardly possible for us not to think of the others.

EXERCISES. Case I.

1 Q.—The word EDUCATION, with its initial sound and four consonants, gives Edward IV. With this and a symbol, the printing-press, (because printing was introduced by Caxton,) associate all the events of this king's reign.

2.—Give me the objects made by the sounds contained in the words DE FOE, ATTERBURY, GOLDSMITH, and COWPER; the first two dying, the last two born, in 1731.

3.—By what type would you represent the three degrees of comparison, the *positive*, the *comparative*, and the *superlative*?

4.—Aleph  is like a leaf in form and sound. Find the similitudes of the next six Hebrew letters; and if no direct type is found, how would you proceed?

5.—The figure in B. I, PROP. 27 of Euclid, is like a wedge or pile with a *cane* [for No. 27, vide Chap. on Number] across it. Find the nearest types of the next five figures of the same book.

6.—Give me the types and the associations for remembering the measure of a Sapphic verse.

7.—Give me the associations for the Glyconian metre.

8.—Associate a few genders by considering their relations to things masculine and feminine.

e. g. Grain, a French noun for corn, is *mas*; and it may be remembered from the circumstance of men being principally engaged in gathering it in.

| | | |
|--------------------------|--|--------------------------|
| Guerre, <i>f.</i> war. | | Hiver, <i>m.</i> winter. |
| Etang, <i>m.</i> a pond. | | Eau, <i>f.</i> water. |

EXAMPLES. Case II.

As we have in Case I. necessarily introduced some examples of Case II., I shall here give examples of committing to memory the Vocabularies of Language.

My mode of proceeding in this respect is the same as Herdson's and Watson's, and is so much like that which is said by some to be recently discovered, that, through a desire of avoiding collision or controversy with the author of any system, I am induced to give, verbatim, Herdson's method of acquiring unknown words, which bears date 1661.

“LECTIO III.

“OF UNKNOWN WORDS.

Unknown words are remembered four ways:*

“1. By the harmonie of words, which various words have one with another; as the English word *Riche*, brings into my mind the Hebrew word *Riach*, etc.

* Watson gives three ways quite different.

- “ 2. From the sound or echo, as England, Isleland, Presbyterie, Presbyter, etc.
- “ 3. From the beginning of words, as, for back, backwards.
- “ 4. By way of Division, as, for Parrat, a pare, and a rat.”

EXAMPLES.

1 Q.—The Greek word *endecketai*, means *it is possible*. How would you associate the word and its meaning so that you might always think of one in connection with the other?

An.—I should select the nearest sound of *endecketai*, as, for instance, *on deck a tie*. This I should repeat in connection with *it is possible*, till a connecting idea arose, as that of a marriage on deck being possible, and so on. Very little practice will give power to do this, in quicker time than I have taken to describe the way.

2 Q.—Associate the following rule of Latin Syntax:—
“ *Satago*, I am busy about a thing; *misereor* and *miseresco*, I pity, require a genitive case.”

2 An.—I could use Case III. with more advantage in this instance; but as I have to illustrate Case II. I should repeat as follows:—There *sat* with his *gold*, *busy*, a *miser*, in *misery* o’erwhelmed, moving the *pity* of the *gentle*. Here the object and the action can be retained with ease; from these we pass to the abstract rule, which, in its usual form, would require much repetition before it could be remembered.

3 Q.—Commit to memory these Latin, Greek, and French words:—

| LATIN. | | GREEK. | |
|--------------|--------------------|-------------------|----------------------------------|
| Panax | The herb all-heal. | raon | Easy. |
| Cūtis | Skin. | edos | A Statue. |
| Acus | Chaff. | keiro | To crop, shear. |
| Climax | Ladder. | poleisthai | To be sold. |
| Pilus | Hair. | apantao | I meet. |
| Pontus | Sea. | katalambano | I take hold of with the hand. |

FRENCH.

| | |
|---------------|-------------------------------|
| Moutonner .. | To curl, to frizzle, to foam. |
| Courir | To run. |
| Avoir | To have. |
| Envoyer | To send. |
| Soleil | The Sun. |
| Bas | Stockings. |

3 An.—LATIN.

CLIMAX...A *ladder*, for *climbing*.

PANAX { For some, the derivative *Panacea*, &c., will suffice; for others, a *Pan*, to hold the *herb all-heal*.

CUTIS { Some will remember it by the derivative *cuticle*, &c.; others will remember that a *cut* is soon made in the *skin*.

A word can generally be found that leads to the quantity.

ACUS { *Acute*, with reference to pain from being pierced with a piece of *chaff*, a *needle*, or a *prickly fish*.

PILUS ...Hence *pile*, a hairy surface, nap, &c.

PONTUS...Something more than a *pond*—the sea.

GREEK.—A *ray* of light *on* a book, makes it *easy* to read

Head of a horse *on* a statue.

Crop, or *shave*, with *care*.

A pole hoist high, to give notice of something *to be sold*.

A panting at a meeting.

Catch a lamb by taking hold of it with the hand.

FRENCH.—From *mutton* we pass to *sheep*, from this to their *curled* and *frizzled* wool, and the appearance of *foam* which their white backs at a distance present.

A courier runs.

Have war. This contains the sound and the meaning.

Sent and on the way.

The *Sun* is the *sole* source of light.

Some *stockings* come from the sheep that *baa*.

EXERCISES. Case II.

- | | |
|--|--|
| 1 Vervex-ecis, <i>a wedder sheep.</i> | Hystrix-icis, <i>a porcupine.</i> |
| Foenisex-ēcis, <i>a mower of hay.</i> | Imbrex-icis, <i>a gutter or roof tile.</i> |
| Resex-ēcis, <i>a vine branch cut</i> | Lynx-cis, <i>an ounce, a beast</i> |
| [off.] | <i>of quick sight.</i> |
| 2 Calix-icis, <i>a cup.</i> | Limax-acis, <i>a snail.</i> |
| Calyx-ycis, <i>the bud of a flower.</i> | Obex-icis, <i>a bolt or bar.</i> |
| Coccyx-ygis, <i>a cuckoo.</i> | Serdix-icis, <i>a partridge.</i> |
| Fornix-icis, <i>a vault.</i> | Pūmex-icis, <i>a pumice stone.</i> |
| Oryx-ygis, <i>a wild goat.</i> | Rumex-icis, <i>sorrel.</i> |
| Phoenix-icis, <i>a bird so called.</i> | Sandix-icis, <i>a purple color.</i> |
| Tradux-ūcis, <i>a graff or offset of</i> | Silex-icis, <i>a flint.</i> |
| [a vine.] | Varix-icis, <i>a swollen vein.</i> |
| 3 Fornax-ācis, <i>a furnace.</i> | 5 Aquilex-ēgis, <i>a well-maker.</i> |
| Panax-ācis, <i>the herb all-heal.</i> | Conjux-ūgis, <i>a husband or wife.</i> |
| Clīmax-ācis, <i>a ladder.</i> | Frux, Frugis, <i>corn.</i> |
| Forfex-icis, <i>a pair of scissors.</i> | Grexx, Gregis, <i>a flock.</i> |
| Hālex-ēcis, <i>a herring.</i> | Lex, Legis, <i>a law.</i> |
| Smilax-ācis, <i>the herb ropeweed.</i> | Phalanx-ngis, <i>a phalanx.</i> |
| Carex-icis, <i>a sedge.</i> | Remex-igis, <i>a rower.</i> |
| Supellex, } <i>household furni-</i> | Rex, Regis, <i>a king.</i> |
| Supellectilis, } <i>ture.</i> | Nix, Nivis, <i>snow.</i> |
| 4 Calx-cis, <i>the heel.</i> | Nox, Noctis, <i>night.</i> |
| Cortex-icis, <i>the bark of a tree.</i> | Sēnex, Senis, <i>old.</i> |

FRENCH.

| | |
|-------------|------------------------------|
| Frapper, | <i>to strike.</i> |
| Fremir, | <i>to shudder.</i> |
| Echapper, | <i>to escape.</i> |
| Dire, | <i>to say, to tell.</i> |
| Débuter, | <i>to begin, start with.</i> |
| Crever, | <i>to put out, &c.</i> |
| Vert, | <i>green.</i> |
| Toujours, | <i>always.</i> |
| A l'entour, | <i>roundabout.</i> |
| Derriere, | <i>behind.</i> |

EXAMPLE. Case III.

1 Q.—How would you associate in the Literal Lens, the Syntax of the genitive from Philip Buttmann's larger Greek Grammar?

1 An.—Take any letter of the word genitive, T for instance, because it seems to be most suited to the subject; then,

1. The fundamental idea of the genitive is that of derivation, shewn by the three arms of the T that proceed from a point.
2. Place a miniature man at the top of the T, and suppose him to be waiting to *free, keep off, cause to desist, or deviate* a cricket-ball—for with these verbs the genitive is employed in Greek.
3. A column is *chosen* for the upright part of the T; *except* a part or *portion* of the top; to shew that expressions, denoting *selection* or choice, *exception*, and in general *portion* or part of a whole require the genitive.

Note.—In Grammar every rectangular figure, divided into nine parts, presents us with a point for each part of speech, thus:—

| | | |
|-------|-------|---------|
| Ar. | Noun | Adj. |
| Pro. | Verb | Adv. |
| Prep. | Conj. | Interj. |



4. To denote, therefore, that the genitive is required in the separation or the distinguishing of an object by adjectives and pronouns, set one man on the adjective corner, and another, of a very different appearance, on a seat projecting from the pronoun point of the column.
5. The high position of the man refers us to the superlative, requiring a genitive.
6. *Part of a clock placed* under the feet of the man in the *adverb* place, shews us that adverbs of time, and adverbs of place, considered as parts of a more extensive time or place, require the genitive; ex.gr. *Tris tes emeras*—three times a day.—Use Case II. sometimes for the recollection of these examples.
7. The man in the adjective point has lost part of his leg, to shew that expressions, with a limitation to a part or portion, require the genitive; ex.gr. *I have broken my leg* (leg is in the genitive).
8. He is eating meat, drinking water, and enjoying the air there, to shew us that such expressions require a genitive whenever the *thing enjoyed* is mentioned.
9. He has on his head a garland of hyacinths, to denote that the *material* or *stuff* of which something consists, requires a genitive.

10. The man might determine to be seated on the column for years, *if it stood*. So circumstances or peculiarities on which things are as it were dependent, require the genitive; *ex. gr.* A column of *many years'* (*standing*).
11. He is drawing up something from the centre point of the column, the verb place, to shew that adjectives derived from verbs have the object of the verb in the genitive; *ex. gr.* *epistemon tinos*—experienced in a thing—from *epistathai*.

This is the substance of two pages and a half of the Grammar, and is quite enough for our present purpose—quite enough to convince any one that we can make grammatical abstractions as things that can be laid hold of sensibly, and detailed like the events or circumstances of an ordinary narrative. On all subjects any association of the student, or direction of his thoughts from the “abstract to the concrete,” will give him the advantage of the principle. His own associations will always be found of most advantage to himself. To say that he cannot associate, is to say, in other words, that he is dead to all the events around him: he remembers the transactions of *yesterday* chiefly by association.

EXERCISES. Case III.

- 1 Q.—About the word AVES, with an axe on one side and a palm on the other, associate all that pertains to the portion of Natural History included in the class AVES.

Note.—The four letters and the two objects, one on each side of AVES, stand for the orders, *i. e.* an object or letter is a point of association for the Families, etc. in each order. A is the letter about which the four families in order II. are associated, viz. the Dentrostres, Fissirostres, Conirostres, and Tenuirostres. The initial letters are D, F, C, T, which may be remembered in their order by the word *defect* or *dovecot*, the A presenting the appearance of one.



2.—Associate the Syntax of Latin nouns with the initial letters of the words Nominative, Genitive, Dative, Accusative, Vocative, Ablative.

The Cases IV. and V. are not illustrated in this place, because the less distinct types are found in connection with the more distinct types, and are used in the same way; and colors are used in connection with Geography, &c., which is separately explained.

EXERCISES on the FIVE CASES.

- 1 Q.—In acquiring a knowledge of the parts of speech, under what form would you consider them?
- 2.—Associate the objects which belong to the types of sound drawn from the following names of the Socratic school:—Xenophon, Æschines, Cimon, Aristippus, Phædo, Euclid, Plato, Antisthenes, Critias, and Alcibiades.

3.—*Any* (Enneandria) *flowering rush* by the waters is beautiful. After this pattern, associate the following :—

7. Heptandria...seven stamens...Horse chesnut.

3. Triandria ...three stamens ...Crocus.

2. Diandria ...two stamens ...Speedwell.

4.—The fairies have *fun* (FUNGI) on their *roomy* (MUSHROOMS) *domes* (referring to the form).—After this pattern, associate the remaining four orders of the twenty-fourth class Cryptogamia.

5.—Associate these places in Ancient Geography :—Cythnos, Syros, Delos, Myconos, Potamos, and Miletus. These are all nearly in the same latitude.

6.—Typify and associate that rule of Mensuration which shews us how to find the area of a quadrilateral figure that is included in a circle, or that has its opposite angles together equal to 180° .

This rule may be remembered by the association of three or four of the simplest types.

INTERMEDIATE IDEAS.

In the association of objects, or the recollection of ideas or words, the pupil will often find intermediate ideas useful as a connecting medium.

EXAMPLES.

1 Q.—Associate SONG and TREE.

1 An.—Let a *bird* give a *song* from the *tree*. Bird is a connecting intermediate idea, the link that holds together song and tree.

2 Q.—How would you associate FLAG.....FAWN ?

2 An.—Let the *flag* flap in the wind, and make a *noise*,

startling the *fawn*. Noise is an intermediate idea.

TRANSPOSITION OF LETTERS.

Images are varied by the transposition of letters. This the pupil will often find very useful: *e.g.* If I would remember FENESTRA, a window, no idea is immediately presented on reading forwards; but on reading it backwards, I find ARTSEN, which at once presents to me a strong associative link, by my imagining an ARTIZAN at work at some highly-finished window. The modes of associating are numerous. It suffices that I have presented many compendious ways of arriving at the certain knowledge of very many things which could never be retained with certainty before.—Exercise, of course, is needed in these things as in every thing else. As for the sluggish and idle, they must sleep on, for to them every kind of exertion is alike displeasing.

LITERAL AND NUMERAL SYMBOLS.

The following will be of service in associating. Some of them were employed in the “*Ars Reminiscendi*” of John Baptist Porta, 1602; and some by Herdson, University of Cambridge, 1651.—

- 0..Globe.....Orange.....Ball.
- 1..Knife.....Candle.....Fish....Staff....Dart.
- 2.. ..SwanDuck...Goose ..Serpent.
- 3..BowTriangle ...Trident, any thing with 3 legs.
- 4..Chopper.....Quadrangle.Die, &c.
- 5..Foot.....Glove.....Sickle ..Pincers, &c.
- 6..Tobacco pipe.
- 7..Carpenter's iron SquareRazor.
- 8..Spectacles.....Seacrab....Twin apples.
- 9..Crosier... ..Burning-glass..Riding-stick.

These symbols are used on account of some resemblance they have to the figures associated with them. Porta made up two alphabets also: one consisted of different positions of the human body; the other, of objects similar in form to the letters.

Herdson, speaking of what he calls mental "Short-hand," says, "Now the ideas of this alphabet be these, and such like as your fancy pleaseth to make choice of: A, a pair of compasses; b, a lute; B, a bow bent, with an arrow in it; C, a horn, &c.; and so in like manner take instruments, or any ideas, for the rest of the letters, which be like the letters."

This appears to me to be the best method we can adopt for learning foreign alphabets, unless we employ the principle of Proximity, of which some old authors speak. Resemblances were sought after in the old systems, and the practice is continued, because it is found to be a natural procedure. The old principle of Proximity was ex-

hibited by Willis as early as 1661. The conjoining of two ideas in one he effected by the direct imaginary contact of things, so that the proximity was complete. But, what is of more consequence, he says, "All characters, single letters, naked numbers, descriptions and citations, are to be always disposed in repositories by a scriptile idea;" that is, one thing is to be written upon another when "no visible thing doth presently occur," and you cannot "conjoin the two ideas in one." He speaks further of the principle in his direction to diminish as much as possible the time between receiving an impression, or idea, and its explanation, or consideration; because, in proportion to the increasing interval of time between an impress on the mind and the understanding of it, or the associating of it, is there a decreasing power of recollection. He says, "Things charged on memory by day are to be deposited *at least* before sleep." A teacher, therefore, whenever he awakens attention, should carefully explain; and an individual studying, should follow up his lessons as quickly as possible, without injury to his physical powers.

In William Fulwood's "*Castel of Memorie*," printed at London, by Rouland Hall, dwellynge in Gutter Lane, at the signe of the Egle and the

Revocation.

Certain rules need not be given for the recovery of ideas, except that ideas are often recovered by discussing a few questions in the mind concerning subject, quantity, site, attributes, motion, &c. If you cannot remember by any of these means, be no longer solicitous about it—it will come to hand beyond expectation when something near it is sought after, unless you have too lightly apprehended it.

CHAP. IV.

LOCALITY.

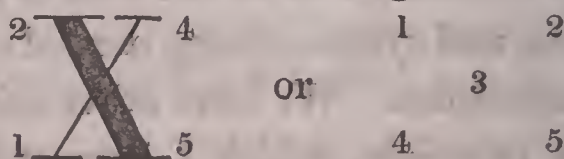
THIS is another important principle involved in my System of Mnemonics. The topical system of the ancients has been adverted to, so that only a few remarks will be made before I proceed to detail my arrangement of Localities. To preserve distinctness in the representation of this subject, I have reserved remarks on the local arrangements of other Mnemonists for another place. This is a subject of great interest, and its importance seems to be pretty well understood by old as well as more recent English writers. Addison, in his dialogue on the usefulness of the ancient medals, speaks of "The Medallist" that "upon the first naming of an Emperor, will immediately tell you his age, family, and life. To remember when he enters in the succession, they only consider in what part of the cabinet he lies, and, by running over in their thoughts such a particular drawer, will give you an account of all the remarkable parts of his reign."

That locality, or, the connection of ideas with places, is a most efficacious medium of remem-

brance, is understood by most people, and is quite sufficient to encourage us in the task of arranging our thoughts, and systematizing mental operations on sound principles. We have other valuable notices of the principle, which I have endeavoured to work out. Foster, in his *Essays*, page 12, says, "Places and things which have an association with any of the events or feelings of past life, will greatly assist the recollection of them. A man of strong association finds memoirs of himself already written in the places where he had conversed with happiness or misery."

"If an old man wished to animate for a moment the languid and faded ideas which he retains of his youth, he might walk with his crutch across the green, where he once played with his companions, who are now, probably, laid to repose in a spot not far off. An aged saint may meet again some of the effects of his early piety, in the place where he first thought it happy to pray. A walk in a meadow, the sight of a bank of flowers, perhaps even of some one flower, a landscape with the tints of autumn, the descent into a valley, the brow of a mountain, the house where a friend has been met or has resided, or has died, have often produced a much more lively recollection of our past feelings, and of the objects and events that caused them, than the most perfect description could have done."

Draw upon the wall an X, and you have the five local points of ancient usage.



As there are generally four walls to a room, we should thus have 20 compartments. This mode of division was made through all the rooms of a house until compartments enough were procured for any subject or particular scheme.

This division was of great importance, but not sufficiently extended for many purposes. By this arrangement, the 5, 10, 15, 20 places would be last points, and referred to directly for the purpose of recollecting an object or subject, placed there in the fancy. In like manner, 3, 8, 13, 18, 23, etc., would always be centres in the first, second, third wall, etc., in the order in which we chose to number those walls, beginning with the opposite wall, or rather with the left-hand one.

I am particular in my explanation, as ultimate success in the acquisition of any system must depend upon a perfect knowledge of the first principles*.

By this time you are prepared to understand a more extended division of a space into nine compartments (vide Pl. 1, Fig. 11).

* Quintilian, in his Institutes, book x. advises "Ut pauca primum complectamur animo," and with a thorough understanding to proceed to make additions.

When squares are divided into nine parts, I call each part a *subsquare*; as, the first subsquare, the second subsquare, etc. And if one of the subsquares be divided into nine parts, (vide Pl. 1, Fig. 5,) call its divisions *places*; as, the first place, second place, etc.

There is a division of the floor and ceiling into subsquares: if these be again divided, they are called places. The walls are called subsquares, because they are formed, as will be seen, by the subsquares of the floor.

Mnemonists have used various divisions. A MS. in the Sloane Collection of the British Museum, dated 1583, by Thomas Watson, student of the law at Oxford, records his division of a wall into 5, 32, or 100 compartments, reckoning the latter by tens, with the same numerical division as Fig. 11. The division into ten parts is sometimes of limited application, because teachers of artificial memory have assigned the same relative external position, for every tenth place, *i. e.* they have chosen a part outside the *second* place in every subsquare for the Nos. 10, 20, 30, 40, etc. This greatly incommodes in many cases where numerical position is important, as in Chronology, and prevents our making one room a connected whole.

The following is an original contrivance for ar-

ranging 100 distinct places in a room, with subsquares for tens arranged numerically, like all the rest of the figures. This arrangement is suited to every important purpose.

The divisions of a square into 5 and 9 subsquares, or 10, one being external, are useful, and may be frequently employed severally, or in combination, as the subject requires; but the method below presents advantages which the others cannot claim, and when rightly understood, becomes of easy application.

Let the floor of a room be divided into nine subsquares, as in Fig. 11. This arrangement is supposed to be well known from what has been said before; then suppose the subsquares, corresponding to the even numbers, 2, 4, 6, 8, to be moveable pannels that hide circles in Fig. 11, but when drawn out in Fig. 111, exposes them to view. Let the pannels drawn away from the four colored circles be turned up perpendicularly at the base of each wall, to shew what numbered subsquare each wall is, as they will stand flat against the sides of the room, and may be supposed large enough to cover the whole of the walls, so that they may be numbered 2, 4, 6, 8 subsquares, each divided into 9 places. Let the left-hand wall always be No. 4 subsquare. Let No. 2 subsquare be the wall opposite to ourselves, (*i. e.* the wall

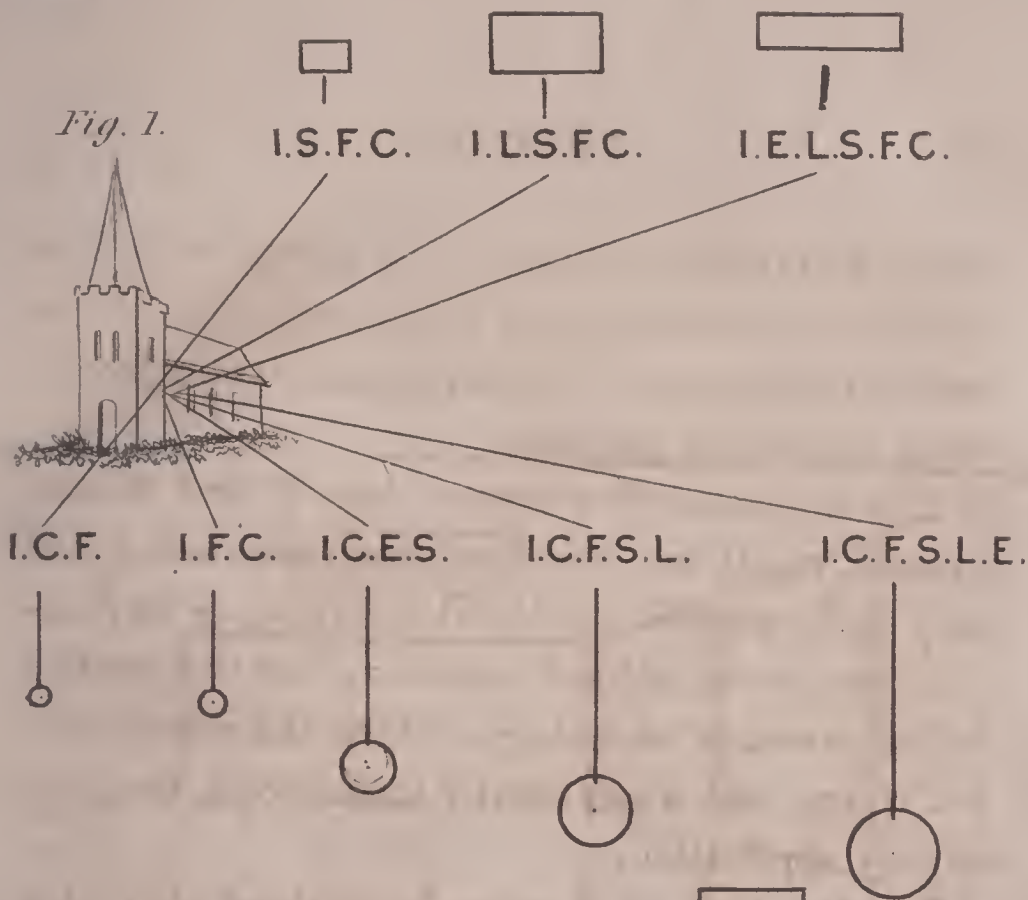


Fig. 2.

| | | |
|---|---|---|
| 1 | 2 | 3 |
| 4 | 5 | 6 |
| 7 | 8 | 9 |

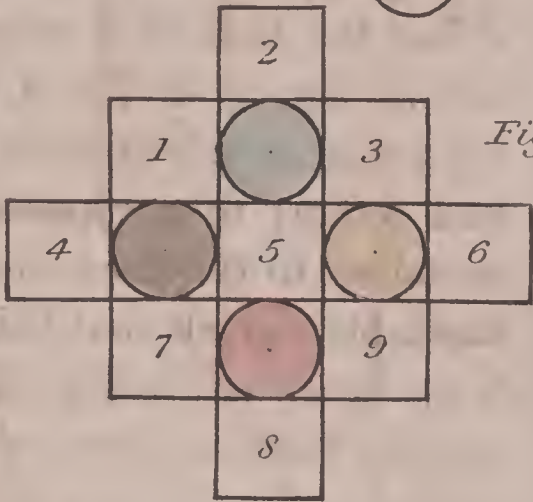


Fig. 3.

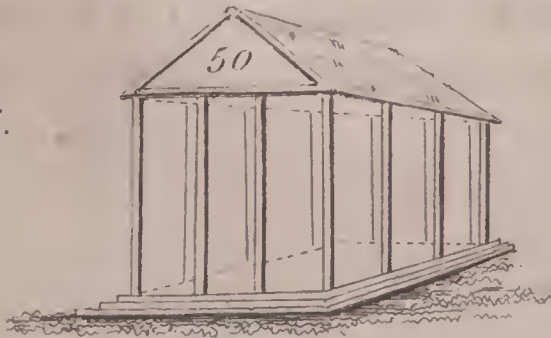
Fig. 4.

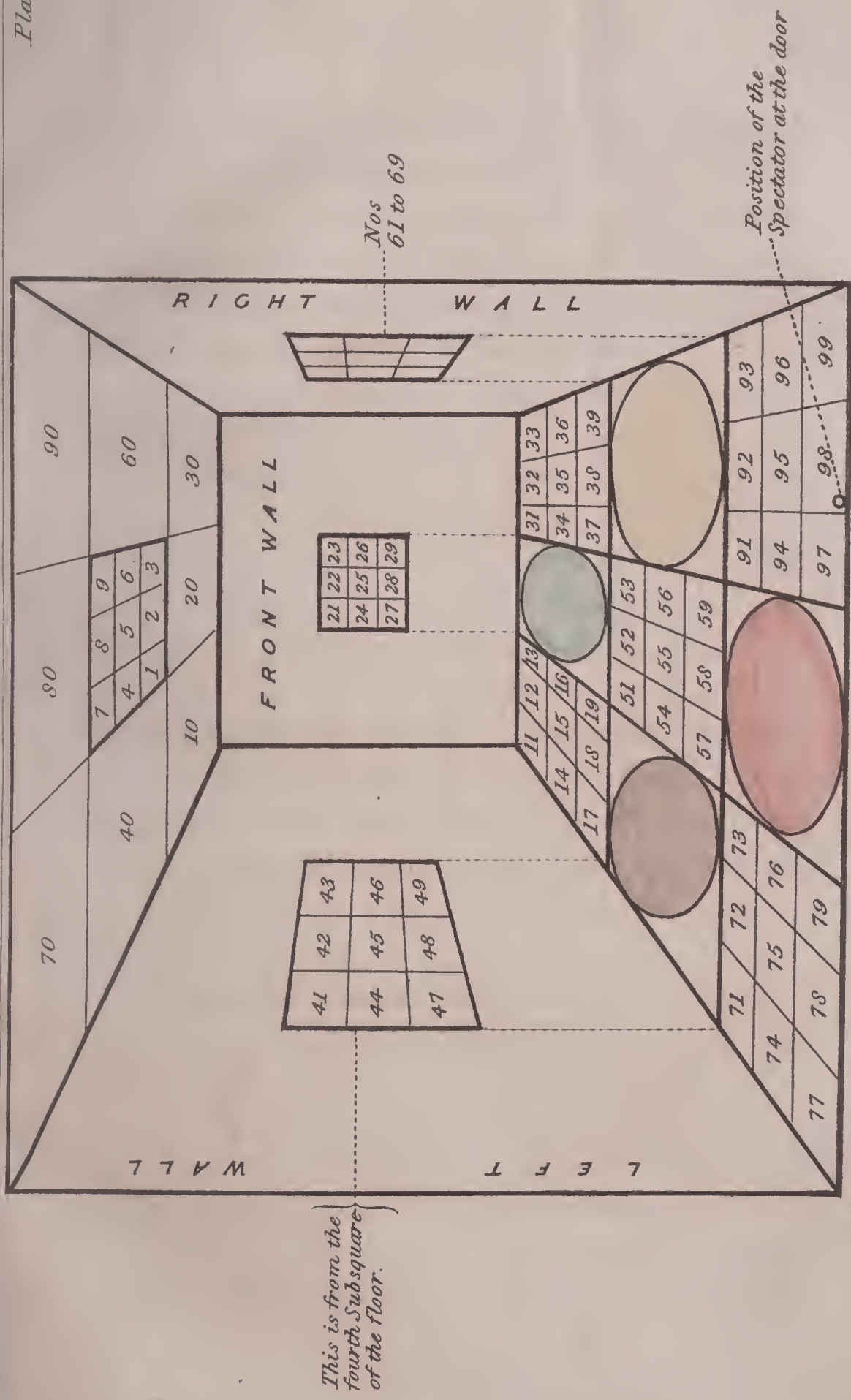
| | | |
|---|---|---|
| 1 | | 3 |
| | 5 | |
| 7 | | 9 |

| | | | | | | | | | | | |
|---|--|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | | | | | | | | | |
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| 1 | 2 | 3 | | | | | | | | | |
| 4 | 5 | 6 | | | | | | | | | |
| 7 | 8 | 9 | | | | | | | | | |
| 7 | 8 | 9 | | | | | | | | | |

Fig. 5.

Fig. 6.





A room in Perspective with 100 local points. Vide LOCALITY. Chap. IV.

opposite to the one where we are always supposed to stand,) containing places from 21 to 29; No. 20 place being in the *second* subsquare of the ceiling. No. 4 subsquare contains places from 41 to 49; No. 40 being in the *fourth* subsquare of the ceiling. So of the sixth and eighth subsquares.

Thus every locality is of easy reference. Look again at the floor containing subsquares 1, 3, 5, 7, 9, and four colored circles. The circles have only a negative value in a room, and serve the purpose of distinctly separating the subsquares 1, 3, 5, 7, 9. Each of the subsquares on the floor is divided into nine places or compartments.

Divide thus for the purpose of forming a distinct idea of the whole; nevertheless, the fifth place or centre in each of the subsquares 1, 3, 5, 7, 9, might be called the centres of association, round which, by rules before given, might be arranged all that is required to be located on the floor.

To make greater clearness in the division of compartments, place the initial letter of the subject studied on the floor, as in Fig. 4. Put c for Chemistry, and it will serve us with places of association or attachment on the floor, which is most of all available for the purposes of Locality.

If we have filled one room with any subject whose initial letter is c, in using another room,

there is a distinction to be made: call the first, the c of gold; the second, the c of silver, of iron, and so on; or, lay on the floor, if it should be preferred, a symbol of the letter as given in the alphabetical and numerical symbols. We shall thus effect a complete distinctness of division for the most extended subject. Let what has been said be well thought of, then what follows will be easily applied.

The fifth subsquare in the centre, with its nine places, (vide Fig. 3 & 4) is to be viewed as the floor of a little open temple, whose pillars are of gold, silver, iron, stone, marble, wood, brass, etc. This may serve to distinguish the rooms also. If we suppose the pillars to be of gold, they must be all of gold, etc. This renders the fifth subsquare in every room a separate and distinct locality. There is no change of the form of the central object, which may always be preserved, but a change of the materials of the pillars, which are associated with the objects located there. Individuals may often vary these minute details with advantage to themselves.

Some so multiply rooms, or squares, as to form an *unconnected* whole; and some so crowd one room as to have 1000 places by subdivision; but none systematize as shewn above, either in respect of 100 places, or the arrangement of the ceiling

with its subsquares for tens, or the fifth subsquare, which is on the floor, with its miniature temple, and which is distinguished, as well as the room, by the nature of its pillars, or the sliding subsquares which give numbers to the walls, etc.

The sides and floor, then, being arranged, *for all cases*, the ceiling must be noticed; and this matter is soon disposed of. Divide the whole square of the ceiling into nine subsquares—1, 2, 3, 4, 5, 6, 7, 8, 9, for the Nos. 10, 20, 30, 40; then let the subsquare 5 be divided into nine places for the Nos. up to ten; then continue with the Nos. 60, 70, 80, 90, as in Fig. 5, Pl. I. The fifth subsquare, which is divided in Fig. 5, is opposite the floor of the temple, and occupies the same space, so as to correspond with it. But you might ask, Where is No. 50 to be placed, as the fifth subsquare of the ceiling is occupied by Nos. 1 to 9? I answer, The temple has a pediment, that is, a triangular space at the top, (vide Fig. 6) in which No. 50 can be placed with advantage.

We will now enumerate the subsquares, etc. in their order, and the numbers contained in them. Remember, each number is represented by *one place*, by agreement, *for ever*; and the places *once* learnt, are ready for *every* subject.

Suppose yourself to be standing at the entrance of the room, anywhere in that line which has the

dot, (vide Pl. 1, Fig. 3) as the entrance to the room is always supposed to be in that line, or, rather, you are supposed to stand at the entrance of the room, and count your places according to the following Table.

To understand this Table, you have only to remember that the floor and ceiling of a room, as squares, are divided into nine subsquares. Then, that *all* the subsquares of the floor are divided, *each* into nine parts, and that four of these subsquares, viz. 2, 4, 6, 8, serve as walls, by being drawn out from the floor. There is *only one* subsquare of the ceiling that is divided, that is the central one, No. 5, for the Nos. 1 to 9.

| Nos. | Pl. | Fig. | |
|------------|-----|------|--|
| 1 to 9 | 1 | 5 | { Fifth subsquare in the ceiling, divided into nine places. (Taking the top of the room first.) |
| { 10 | 1 | 5 | { First subsquare of the ceiling that corresponds with the first subsquare on the floor. |
| { 11 to 19 | 1 | 3 | { First subsquare on the floor, divided into nine places. |
| { 20 | 1 | 5 | { Second subsquare on the ceiling that corresponds to the second subsquare on the floor. |
| { 21 to 29 | 1 | 3 | { Second subsquare on the floor, drawn out and fixed against the front wall, and divided into nine places. |
| { 30 | 1 | 5 | { Third subsquare on the ceiling that corresponds to the third subsquare on the floor. |
| { 31 to 39 | . | 3 | { Third subsquare on the floor divided into nine places |
| { 40 | . | 5 | { Fourth subsquare on the ceiling corresponding to the fourth subsquare on the floor. |
| { 41 to 49 | . | 3 | { Fourth subsquare on the floor, drawn out and fixed against the left-hand wall and divided into 9 places. |
| { 50 | . | 6 | ON THE PEDIMENT OF THE TEMPLE. |
| { 51 to 59 | . | 3 | { Fifth subsquare on the floor, the base of the temple divided into nine places. |
| { 60 | . | 5 | { Sixth subsquare on the ceiling corresponding to the sixth subsquare of the floor. |
| { 61 to 69 | . | 3 | { Sixth subsquare on the floor, drawn out and fixed against the right hand wall and divided into 9 places |

| Nos. | Pl. | Fig. | |
|------------|-----|------|--|
| { 70 | . | 5 | { Seventh subsquare of the ceiling corresponding to the seventh subsquare of the floor. |
| { 71 to 79 | . | 3 | { Seventh subsquare on the floor divided into 9 places |
| { 80 | . | 5 | { Eighth subsquare on the ceiling corresponding to to the eighth subsquare on the floor. |
| { 81 to 89 | . | 3 | { Eighth subsquare on the floor drawn out and fixed against the wall in which you are supposed to stand, and divided into nine places. |
| { 90 | . | 5 | { Ninth subsquare on the ceiling corresponding to the ninth subsquare on the floor. |
| { 91 to 99 | . | 3 | { Ninth subsquare on the floor divided into 9 places. |

Again I say each No. has that locality assigned it which it must always keep.

Thus I have arranged 100 places. When you understand how to divide *one* room, you have a sample for *all* rooms, and for locating every thing you may have to learn of Chronology, History, Grammar, Systematic Tables, the Divisions of Natural History, Botany, etc.; first putting it under some Mnemonical form, (vide ASSOCIATION) according to the nature of the subject. It will be found, in practice, that the minutest details can be at once referred to with the greatest certainty. The task of learning this localizing system will amply repay the student in the saving of months and years of labour.

Any subject may be first located on what I have designated NATURAL POINTS. This is a most important and original part of this Local System. It possesses great capabilities, and is of very easy

application. It may be used with the previous local arrangements, or separately.

EXERCISES ON THE LOCALITIES.

Standing at the entrance of a room, or what you might choose to call the entrance, find the Localities

| | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|-----|
| 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
| 3 | 13 | 23 | 33 | 43 | 53 | 63 | 73 | 83 | 93 |
| 5 | 15 | 25 | 35 | 45 | 55 | 65 | 75 | 85 | 95 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
| 9 | 19 | 29 | 39 | 49 | 59 | 69 | 79 | 89 | 99 |
| 11 | 22 | 33 | 44 | 55 | 66 | 77 | 88 | 99 | 1 |
| 7 | 28 | 39 | 50 | 61 | 72 | 83 | 94 | 5 | 16 |
| 19 | 39 | 59 | 79 | 98 | 23 | 49 | 69 | 89 | 9 |
| 55 | 64 | 73 | 82 | 91 | 80 | 72 | 63 | 54 | 43 |

CHAP. V.

NATURAL POINTS.

To shew clearly what I mean by natural points, I have selected for illustration the Chronology of the Kings of England, and the History of England.

The constant division of *every* thing into nine places, as practised by some, whether the subject admits of it or not, tends to deprive them of the highest advantages of the local system, because it is carrying it to an extreme by points of unvarying uniformity that are less and less distinctive, not as points absolute, but as points relative, when encreased to any extent. I refer to the divisions of *objects* into places or parts, not to the divisions of squares. The square as in Pl. I. Fig. 2, is usually employed by all modern local Mnemonists, for History, Chronology, and other departments of knowledge. The constantly recurring square obliges them either to provide an arbitrary symbol or furniture, not in the least allied to the subject which the memory has to retain. The old division of the room contains the Kings of England, with only two spare places. My arrangement of the room secures two spare subsquares, and instead

of having nine places filled, in each square I put something connected with the subject in each subsquare, that contains in two instances only three kings. The greatest number in any subsquare is eight, and the royal families are preserved distinct. This advantage does not belong to the nine divided square. There is another advantage belonging to the use of the natural points, which is very important, and that is, there is space furnished in connection with Chronology for the whole Ideatypic History of England.

The mode will now be described. First, draw symbols from the subject according to its nature. The initial letters of the first four families strike me as especially appropriate for the Kings of England, as three of them present the requisite number of points (vide Plate II. Fig. 1).

N contains four points for the four kings of the Norman line. P is divided into nine parts, as there are eight kings belonging to the Plantagenets. L presents three places for the house of Lancaster. Y three places for the house of York. N, P, L, Y, with two vowels, is *NO PLAR*, which a boy's fancy would lay hold of.

Without proceeding farther, we will suppose the N to be put in the first subsquare of a room. The O subsquare on the ceiling is occupied by the Saxons. P is put in the second subsquare, L in

the third, Y in the fourth. Thus we have arranged for us localities stamped, as it were, in the very names of the families whose history is to be recorded.

So well do these arrangements answer, that many of my pupils have committed the whole of the dates of the kings to memory, and one or two historical facts associated with them, in half an hour.

To proceed: take the first square in L (vide Pl. II. Fig. 1.) to combine Chronology and History, (vide Fig. 2.) and I will detail a mode of instructing pupils so as to produce astonishing results.

In Fig. 2, there is a *boat and a wave*. Put before these words the word **ENGUARD**. Other words that have the same commencing sound and four consonants (the number required in this instance) would do as well.

ENGUARD, BOAT, WAVE (1399).

From the first syllable of **ENGUARD** we get the initial sound of Henry, and by the four consonants in the same word, we are able to recollect that it is Henry the fourth. Then, *boat, wave*, the words associated with enguard, give us the date of the king's accession, as above, 1399 (vide the scale of numbers). The sense is, that Hotspur, in the *spur* of the mo-

ment, is giving up the cause of Henry, as represented in the man by the tree, trying to set adrift the boat.

This is an original mode of associating the *name*, *order of succession*, and *date*, with historical facts. This mode of managing the name of the king, I have adopted to exclude the nonsense that is frequently introduced. I have now words at my disposal, that will make sensible connection with the History, as will be seen in a further description of Fig. 2.

Henry the fourth's was a troublous reign, as the *wave* tossing the *boat* indicates. One of our poets has said, in reference to this king, "Uneasy is the head that wears a crown." We may easily imagine some *name* for the boat, to remind us of Whittington and the ship in which he traded, call it the *Cat*. The boat was *first* fastened to the tree by a man, to shew that Hotspur *first* sustained Henry's fortune, but now, in the *spur* of the moment, he intends to set the boat adrift upon a troublous sea.—The application of this is apparent. The man, Hotspur, has a saw in his hand, to *saw* down the tree, and cut off the boat's security. *Sawing* the tree refers to *Sawtree*, the first English martyr. Behind the man is a building, which we may associate with the picture for *Guildhall*, that was built in this reign. At the

side of this building is a gate, hung about with chains, referring to Newgate, founded by Whittington. A *gauntlet* fixed in the *stern* of the boat, refers to Henry's *family* and *position*; that he was of John of Gaunt, and that there were others before him in the succession, etc.

We might introduce much more, *e. g.* a *choice cow* comes from the *glen*, to drink of the troubled waters; referring to Chaucer, Gower, and Glendower, who flourished in this reign. The rest the teacher or his pupil will supply and associate from his own reading. Numerous examples will be found in the Chronology of the Kings of England.

CHAP. VI.

N U M B E R .

ANOTHER most important principle now comes under consideration, useful to all classes of men who employ the Arabic numerals, 1, 2, 3, 4, etc.

These being *signs of signs*, must be brought under forms that admit of association. Letters which are substituted for figures, are also signs of signs; but they are a very different class of signs, and admit of an arrangement that brings us within the sphere of the most familiar objects.

The ancients used letters for figures. They had no Arithmetical signs. Dr. Grey, among the moderns, first applied letters to Mnemonics. His plan was much thought of at the time, and possesses some value, on account of the principle it involves; yet great difficulties lie in the way of its application: *e. g.* these technical words are almost as difficult to remember as the numbers for which they are substituted.

| |
|--|
| 381.....1921.....1491.....7967 |
| teib. aneb. afna. pousoi. |

| | | |
|------------------------|---|------------------------------|
| Terræ magnitudo | { | Termagnit.....eso.....klaum. |
| Magnitude of the Earth | | 264,856,000,000 Cubic miles. |

The design is good, and this must be apparent to a superficial observer; for who could remember a series of figures like the following without contrivance?

793730383799867379.

If consonants be substituted for the figures, and any vowels be added to complete the sense, it will make a phrase, as in this instance (vide Plate II. Fig. 3, for the numerical scale employed here).

“ Know then this truth (enough for man to know).”

7 9 3 7 3 0 3 8 3 7 9 9 8 6 7 3 7 9.

Such phrases, Ideatyped, are easily retained in the memory.

Elphinstone’s table of affinity, or analogical association of sounds, and other sources, have enabled me to arrange a table nearly allied to the genius of many languages or dialects.

We must *agree* that the following letters shall represent certain figures.

| | | | | | | | |
|--------------------------------|---|-------------------------|--------------------------------------|-----------------------------------|--|-----|---|
| SIBILANTS | | or hissing sounds. | s.c.z (sc & c) | | put for | 0 | |
| LABIAL | { | Simple | | B.P | | „ 1 | |
| | | Aspirate | | v.w.f.ph, gh as f, and gh as w | | „ 9 | |
| GUTTURALS or Hard sounds | { | Simple | | c.k.q.g hard | } Substi- tutes or Represen- tatives of | 2 | |
| | | Aspirate | | ch. gh | | | „ |
| | | Compd. sibilating, etc. | x.sk.sq.ck | | | | |
| DENTAL | { | Simple | | t.d | } | „ 3 | |
| | | Aspirate | | th | | | |
| COMPOUND | { | Aspirates | | j.g.ch.tch and cognates tu su | } | „ 4 | |
| | | Sibilating Aspirates | sh and cog- nates ti, si, zi, sch | | | | |

| | | | |
|---------------|---|---------------------------|---|
| LIQUIDS | { | L | 5 |
| | | M..... | 6 |
| | | N..... | 7 |
| | | R (augh & ough as R)..... | 8 |

Or thus:—

| | | | |
|-----------------|------------------------|--------------------------|------------------------|
| | LABIAL. 1 | GUTTURAL. 2 | DENTAL. 3 |
| SIBILANTS. 0 | COMPOUND. 4 | LINGUAL LIQUID. 5 | LABIAL LIQUID. 6 |
| | DENTAL LIQUID. 7 | GUTTURAL LIQUID. 8 | LABIAL. 9 |

1 and 9 Labials are opposite each other, as 3 and 7 Dentals, and as 2 and 8 Gutturals are; Diagonals would pass through the odd numbers.

In Pl. II. Fig. 3, the whole is arranged in subsquares, and the consonants have their localities assigned them according to the figures they are intended to represent.

To assign to each division as wide a range as possible, I make NG and DG also represent 4. These with J make the word JUDGING, which is 444. Y and H, as a separate consonant, may be used *anywhere*, but they do not represent a number. Throughout, for purposes of convenience, Y may always be regarded as a vowel, and W always as a consonant (vide No. 9, above).

There is an aim in the whole contrivance to combine something like philosophical order with conventional practices. In doing this, there is always danger of leaning too much on one side. Attempts have been made, by some writers, to determine the number of distinct sounds which the human voice is capable of producing. If we consider a little, we shall perceive they are essentially infinite, and admit of no limitation. It is necessary, however, to employ symbols of sound, and to arrange them; and it is worth while attending to the various opinions that belong to the subject, that we may derive advantage where we can.

The result of my enquiries is given in the scale, Pl. II. Fig. 3. The pupil has only to consider how each subsquare stands, and to know its place from what he has learnt previously, and then what consonants I have assigned to each of these subsquares; so that when figures are to be committed to memory, certain consonants can be substituted for those figures, and any vowels added to complete the words and make sense. The task of the learner is really a very simple one. The order of the consonants, apart from the distribution according to sound, is simple, for it runs with the alphabet. B, C, D, is 1, 2, 3; J is 4, and L, M, N, R, is 5, 6, 7, 8. The last four may be remembered by

inserting two vowels, and making the word *Limner*. w is 9, and the last. The rest of the consonants may be traced by the sounds which they have analogous to this or that letter, that may be considered the *principal one* of each subsquare. By omitting the vowels in our series, we can use them where we please, because they have no numerical value assigned them.

The vowels are like ligaments, and the consonants like parts of a skeleton that require to be held together.

Fenaigle and Goodluck have adopted letters as near as possible like the figures. Fenaigle put t for 1, on account of their similarity; n also for 2, because two strokes were required to make it; m for 3, and so on. Beniowski seems to have followed Fenaigle in his scale. Dr. Crook followed the order of the alphabet, by placing

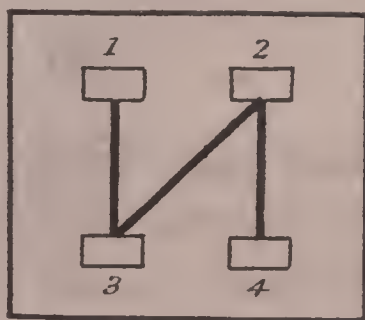
| | | |
|-----|-----|---|
| B C | for | 1 |
| D F | „ | 2 |
| G H | „ | 3 |

Here the letters assigned to each number are not cognates. A difficulty will be found in this and in all similarly constructed tables, when we pass from a letter not suited for a word, and try to bring in another, because the sounds of the letters that are placed together are unlike. This is an important consideration, well known to those who have tried both ways, yet hardly understood, per-

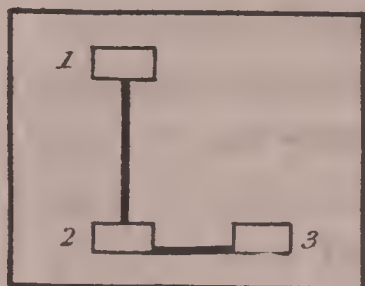
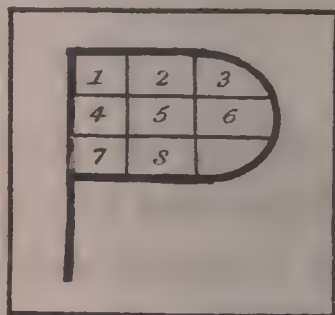


| | | |
|----|----|----|
| 12 | 3 | 18 |
| 14 | 1 | 15 |
| 7 | 25 | 7 |

Fig. 1.



o



a

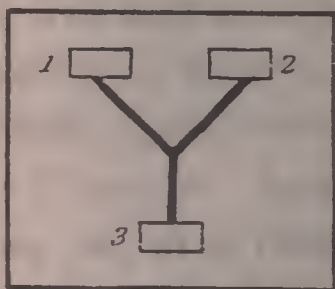


Fig. 2.

| | | |
|-------------------------------------|-------------------------------|-------------------------------|
| | <i>o</i> S <i>z</i> | |
| <i>1</i> B <i>p</i> | <i>2</i> C <i>k</i> | <i>3</i> D <i>t</i> |
| <i>4</i> J <i>ch. sh.</i> | <i>5</i> L | <i>6</i> M |
| <i>7</i> N | <i>8</i> R | <i>9</i> V <i>f</i> |

Fig. 3.

haps, by those who have only used one. The letters that belong to the several subsquares may be variously remembered, for the *index* consonants, or the principal consonants of the subsquares that have *even* numbers, are contained in the word CASHMERE. These subsquares may also have a circle drawn in them, or they may be colored. C or G (both being hard sounds, as C in *cash*; G in *got*, *gash*, etc., and not as G in *age*,) may be distinguished by the color *green*; SH, or CH soft, by a *chocolate* color; M, by *amber*; and R, by *red*.

I will now make a particular application of the Scale, (Pl. II. Fig. 3.) which I have designated Ideatyphonicon, from its connection with Ideatypics, and its supplying us with ideas in the substitution of consonants, arranged as nearly as possible according to sound. Suppose a series of figures to be learnt immediately--39, 17, 64, 38, 71,—refer, mentally, to the scale (the scale, or the table from which it is derived, must be committed to memory) for the subsquare containing the number you want. Then you may adopt the method used by Mrs. Slater in her Chronology, or Mr. Goodluck in his,—that is, let each letter, substituted for a figure, be the initial letter of a word. This mode, however, must be used in close connection with objects. I have found that by en-

creasing the number of *objects*, under certain regulations, the recollection is assisted, while *mere words* rarely have the same effect, however well applied they may be; and when those applications originate with the individual who uses them, the result is still very uncertain. Another mode is, to take the two first consonants of a word. In 3 subsquare you find D, T, TH. Take one of the three consonants, and for the next figure, 9, take one of the consonants in subsquare 9. Then make a word of these two consonants. Never mind how many letters there are in the word you employ, only let *the two* consonants that are chosen be *first* in it, as they only will be considered the representatives of the numbers.

Taking the figures two by two, we have a series of words any of which we may adopt. We have here five rows of words answering, from left to right, to the row of figures above them.

| 3 9 | 1 7 | 6 4 | 3 8 | 7 1 |
|-------|---------|---------|---------|--------|
| Towel | painted | much | deer | nabob |
| Down | bonnet | meshes | draught | nobody |
| Tough | pint | matches | train | nibble |
| Thief | pincers | manger | terror | nap |
| Dove | punt | motion | threat | nip |

This method is adopted for quickness, as it will be seen hundreds of words are at our disposal that we can instantly associate, reading them off

in the order of the numbers. If speed be the object, three figures at a time will not do so well, as there is then a smaller choice of words. Five words may be associated in each subsquare, if you wish to locate them in any room, and in every square we may put 50 words with ease; so that if each word be numbered, the word and the number can be given in every instance. This, however, is not the mode to be adopted for committing to memory in study and in a serious way. We must employ a little more labour to arrange phrases, and then the matter in connection will be indelibly fixed in the mind, and space and time economised.

Take the series of figures above and make a phrase thus:—

{ 3 9 1 7 6 4 3 8 7 1 }
 { A thief, a paynim cheat, ran by. }

Here *every* consonant, or the *equivalent* to a single figure, is to be considered as a numeral representative.

We may fix the events of a whole year, register appointments, enrol the payment of bills, and other mercantile concerns, on ideal almanacs, made by taking four walls, and dividing each into three stripes, each stripe being divided into three parts. We may take the wall as a subsquare divided into nine places, and again into subplaces for the days of the month. Suppose we wish to

remember an occurrence or circumstance of business or pleasure, connected with the 25th of April, we should take the figures 4, 25, (fourth month, 25th day,) and change them into letters. These would be SH, K, L; of this we might make SHEKEL, or any other word that would associate with the nature of the event. We can make ourselves many ideal repositories to enchain and fix passing incidents, whether of an amusing character or connected with money matters, dates, &c.

Other valuable modes of employing the principle will suggest themselves to the student. How advantageously the system may be employed in the business of life, our every-day concerns, to remember the No. of a cab or other vehicle, the number of a bank note, a number of articles that we have to purchase, many persons that we ought to call upon, etc. etc. Arithmetical Tables, Statistics, Mathematical Formulæ, etc., are instanced in the examples.

There are certain "*Disciplinæ**, " however, connected with these things, (the Mathematics) as well as with Language, in which memory is but a handmaid, and holds an inferior place to the judgment. Through these Disciplines, mind is considered as passing to attain a condition of right

* At some of the Colleges, the papers are headed *Disciplinæ*.

judgment, or certain and correct habitudes of thought. The first four rules of Arithmetic, which are generally considered as elementary, are resolvable into still simpler forms, through which the mind should be led. This would give an ability to go through a multiplication table of great extent, without either learning it by rote or by Ideatypics.

To those, however, who would learn it by this System, it is an easy affair. A few squares, sub-squared and divided into places, in which objects are supposed to be put, made out of the letters that are the representatives of the figures to be remembered, settles the business. There are hundreds of tables and thousands of figures connected with different branches of Education, that require to be learnt by rote, and are used as materials for the exercise of the judgment. These will be the first object of the teacher in employing this System. Let no false exercises or false knowledge be committed to memory. Men have devised systems of Logic to aid us in thinking rightly, because of our erring judgment; let us, then, not strengthen wrong tendencies. It does not follow that you can recollect the *real* because you can retain the *false*, as some pretend, any more than it would follow that you can recollect the face of a person because you are able to remember a distorted image of the man, in fact, a caricature

more striking than the reality. If a system be good, it is wrong not to exclude from it every thing that is of questionable value. I intend to give no false stimulus to the public mind, as an enticement to the practice of that which I have here presented. My duty, as a Teacher, does not allow me to encourage morbid feelings, but to give a plain, unvarnished statement of the principles of my System and of my practice. I shall be content to lead others to rapid progress in *real* knowledge, and not to presume upon it by what I can shew of advancement in that which is *false*.

Under the head of examples, we are enabled to introduce subjects that are likely to solve the most important queries of the learner.

EXAMPLES.

| | | |
|-----------------------------|---------------------------|--------------------------|
| Beauty 13 | Girl 285 | Quench 274 |
| Bought (as R) . . . 183 | Goose 20 | Rapture } 8148 |
| Bow 19 | Age (G soft) 4 | (tu pron. ch) } |
| Cow 29 | Hedging 44 | Sicily 005 |
| Cough (as R) . . . 29 | Jew 49 | Thatch 34 |
| Caught (as R) . . . 283 | King 24 | Thing 34 |
| Cask 22 | Language 544 | Thought (as R) . . 383 |
| Casque 22 | Mantua-maker 673628 | Taught 383 |
| Catch 24 | Numb 76 | Vinegar 9728 |
| Daughter 3838 | Knight 73 | Weeping 914 |
| Flash 954 | Prejudice 18430 | Xenophon 2797 |
| Friendship 987341 | | Zany 07 |

EXAMPLES.

- 1.—The distance of the moon from the earth is 236847 miles, or (*Get home, urchin,*) associate moon and urchin.
- 2.—Muskets invented, A. D. 1521 (*Plug up*).
When a musket is not used, they put a cork in the muzzle.

- 3.—Numbers necessary in computing areas of circles :
 3·1416, or 3·1415926536 (*A deep ship. Leave a camel at home*).

NOTE.—A circle brings to mind the *earth*, with a *deep ship* sailing round it; and then comes the idea of the *disadvantage*, or the *uselessness*, of *having a camel on board*. The transition of the thought is easy, and the result certain.

- 4.—A great source of error in the statement of temperature, is the different modes of estimation used by scientific men in different countries; as,

BOILING POINT.—Fahrenheit. Centigrade. Reaumur. De Lisle.
 212°(cubic). 100°(passes). 80°(rose). 0°.

FREEZING POINT.—32°(thick). 0°. 0°. 150°(bells)

Associate the words in whatever way you please, or select others.

- 5.—A few dates of important facts*.

For a compass...*a boat seek*. (1302) The compass invented.
 glass.....*maiming*. (664) Glass first used in England.

Cannon at Cressy.*by it dies*.(1330) Cannon first used at Cressy.

For coffee*buy milk*. (1652) Coffee introduced.

Magna Charta procured *by a Cabal* (1215) of Barons.

Cards invented.*by it weep*. (1391)

- 6.—Wales, a *big rock*, (1282) quite subdued by the *arms* (860) of Edw. I., after an independence of 860 years.

- 7.—Imagine a piece of *moss* (60) to be put on some part of Westminster Abbey, and it will bring to mind the number of years that edifice took in building.

- 8.—For Latitudes and Longitudes. An acquaintance with the Geographicon will enable any one to

* Many of my pupils can give a date for almost every particular circumstance in *Modern History*, with the births and deaths of all the remarkable men. On this subject alone they have always at hand 10,000 figures; and from themselves I have it, that they find it *more difficult to forget than to remember*.

decide upon the Longitude being East or West, or the Latitude North or South. Let the Latitude always precede the Longitude. Then the following is the Lat. and Lon. of *Jerusalem*.

LAT. 30° (DEPENDANCE) $47'$ (SHUNNING) N.

LON. 35° (TELLS YOU). $20'$ (CAUSES) E. of JERUSALEM'S
[DECLINE.

Note.—My idea in connection with this, is the continual departure of the Jews from GOD.

EXERCISES ON NUMBER.

- 1.—Berzelius calcined human bones, 100 parts of which contained

| | |
|-------------------------|------------|
| Phosphate of Lime..... | 81.9 parts |
| Fluate of Lime | 3 |
| Lime | 10 |
| Phosphate of Magnesia.. | 1.1 |
| Soda | 2 |
| Carbonic Acid..... | 2 |

100

Ideatype the above Table.

- 2.—What is the specific gravity of Quicksilver, Chlorine, Sulphur, etc.?
- 3.—What is the Lat. and Lon. of London, Paris, Madrid, Amsterdam, Berlin, Berne, Rome, etc.?
- 4.—Take *six* points about a *mill* for the different measures of a *mile*, *five* points about a *cur* for the different measures of an *acre*, four points about the next object, and so on till you have associated and located all that belongs to Square Measure.
- 5.—What is the height of the mountains Snowden, Cader Idris, Vesuvius, Ætna, Bernard, Blanc, etc.?
- 6.—What is the length of the Thames, Seine, Tagus, Rhone, Rhine, Don, Volga, Euphrates, Indus, etc.?

7.—Put into Ideatypics the following numbers frequently used in calculation:—

| | |
|--|---------------------------------------|
| Square of 3·14159265359 . . . | = 9·869604399639 |
| Area of a Circle to diameter 1 . . | = ·785398163397448 |
| Surface of a Sphere to radius 1 . . | = 12·566370614 |
| Solidity of a Sphere to radius 1 . . | = 4·188790205 |
| Square of a circumference of a circle | $\times \cdot 07957747 = \text{area}$ |
| One hour | = 3600 seconds |
| Twelve hours | = 43200 „ |
| Mean diameter of the Earth . . | = 7912 miles |
| Mean radius of the Earth . . . | = 20887680 |
| A degree on the Equator . . . | = 365144 feet |
| English mile | = 5280 feet |
| Geographical mile | = 6075·6 feet |
| Time of the diurnal rotation of the Earth | } = 861640·908 sec. |
| Length of the Solar or tropical year | |
| „ „ Seconds' Pendulum | } = 39·1393 inches |
| „ at London | |
| Force of Gravity at London . . . | = 32·1908 feet. |

CHAP. VII.

APPLICATION OF THE PRINCIPLES TO THE LEARNING OF A LANGUAGE.

THE affinities of any language must be first sought out, then there must be an endeavour to systematize similarities, to trace variances, and to bring them under some form. When systematized, the Latin, a seven years' task for a boy, might be taught to some in six months, to others in three. They should know more of the language than is generally known on leaving school, and their judgments should be more improved.

A perfect knowledge of the Genders and declension of Nouns, the conjugation of Verbs, and other things, which may be considered the initials of Language, (the teacher's drudgery,) may be taught in a few hours, in separate lessons: I speak from my own experience.

Let it be understood, however, by all readers of this Work, that something more is needed in the acquisition of a language than mere memory: there must be an exercise of judgment and a real activity of the thinking powers, then the progress of the pupil is rapid and certain. Men are not to

be taught as if they were mere automata, and had no occasion to exercise their faculties. I have known men deluded as it were into the expectation that they were to be provided with a sort of talismanic key, that would at once open every door of difficulty. The reader must only expect to find a toilsome road diminished to a fraction of its former length, by the exercise of his mind in the application of the principles of this System, and his own practical judgment.

1.—We have first to learn words for practice.

The way of acquiring the words of a language is given under the head of Association.

2.—Learn the forms of the Noun.

Take the five Latin declensions as an example, and arrange them under some forms, and locate them, if possible, where you can occasionally give a passing glance at them, and your recollection of the whole will be permanent. I have Ideatyped all the Latin declensions, but I have no space for them, except the mere forms of the five declensions singular (vide Pl. III. Fig. 3).

GENDERS.

Of those who have taught the genders by Mnemonical rules, I know of none who have taken up

the subject as a whole. They have shewn the way in which genders of nouns might be learned dozens at a time; but who would attempt to wade through a language thus?

The rules must be grasped, with all their exceptions and counter-exceptions, concentrated and concentrated, till they become a comprehensive whole, or are collected and brought to connected points of immediate reference.

I will shew you in what manner, under the figure of a temple (or any other object), I bring all the genders of Latin nouns before me. We have space for one side only of the temple as represented in Pl. III. Fig. 3. In the hinder part of the temple as represented, we have three pillars: call the one to the right Masculine, the middle one Feminine, the one to the left Neuter. The top of each pillar is used for words that have anomalous genitives. The bases of the pillars are used for the exceptions in gender of those final letters that are found on the pillars. It will be perceived that it is easy to recollect counter-exceptions by transferring the words, as a collected whole, to one of the pillars, as we shall explain, first giving the rules for *x* final, and its formation of the Genitive from Adam's Institutes.

Rules.—1. Nouns in *x* are feminine, and in the genitive case change *x* into *cis*; as, *Vox*, *vocis*—the voice; *Lux*, *lucis*—the light.

“2. Polysyllables in *ax* and *ex* are masculine; as, *Thorax-acis*, a breastplate; *Corax-acis*, a raven. *ex* in the genitive is changed into *icis*; as, *Pollex-icis*, m. the thumb.

Counter-exceptions in the formations of the Genitive.—

(vide Association, CHAP. III., EXERCISES Case II., No. 1.)

Masculines added to these.—(Vide No. 2, as above.)

“3. But the following polysyllables in *ax* and *ex* are feminine. (Vide No. 3, as above.)

“4. A great many nouns in *x* are either masculine or feminine. (Vide No. 4, as above.)

“5. The following Nouns depart from the general rule in forming the genitive. (Vide No. 5, as above.)

I have not space for the varieties of Greek nouns in *x*. These rules and exceptions belong to only one final letter. Imagine a boy having to fag for years in acquiring such things by repetition only. Now, pass with me through the same rules, and observe how distinctness is preserved by the several localities, so that each word can be readily referred to.

1.—Nouns in *x* are feminine, etc. etc.

Paint an *x* black on the middle marble pillar, and *cis* on a screen behind the pillars or on the pediment. (Vide Pl. III.)

2.—Polysyllables in *ax* and *ex* are masculine, etc. etc.

Paint *ax* and *ex-icis*, in black letters, on the first pillar. Put the excepted genitives of *ex* at the top of the first pillar in this form:—

A wedder sheep was eating the vine branch that a mower of hay had cut off.

To make the lesson more effectual, draw a sketch of the thing, and let the mind pass to the reality. Then the mere reading of what I have penned will be enough for the pupil.

At the side of the base of the middle pillar put these masculines, connected in a chain of ideas, and represented by some drawing of the pupil's.

Let a *wild goat* be plucking the *offsets of the vine*, and a *cuckoo* be examining *the cup or bud of a flower* that grows by a *vault*, in which we are to suppose there is a *Phoenix*.

3.—But the following Nouns in AX and EX are feminine, etc. etc.

These will be associated or chained to the *base* of the first pillar, because they are *exceptions* to AX and EX, which are *on* the pillar.

In a *pan (household furniture)*, well burnt in a *furnace*, let the *herb att-heal* be placed, and by it a *ladder* with the herb *rope weed* and *sedge* about it. On the ladder let there be fixed a pair of *seissors*, and on this a *herring*.

4.—But a great many Nouns in x are either masculine or feminine, etc.

Here I take, if possible, an object that has a tendency to fall both ways, or I lay hold of some other circumstance.

I take a *gutter tile*, (*imbrex*, m. or f.) and imagine it to be supported on one side by a *flint*, on the other by a *pumice stone*, and that it contains *sorrel of a purple color* bound with the *bark of a tree*, upon which crawls a *snail* that a *partridge* is about to devour, but is prevented by a *porcupine*. Then imagine a *Lynx* to tread upon the corner of the tile and produce a *swoln vein upon his heel*. (Vide base of second pillar.)

Enough has been said, I think, to shew clearly my mode of procedure. All that is here associated is absolutely less in amount of words, when cleared of whatever is explanatory, than Adam's rules in all their regular yet unassociated order.

It may be said, there is the task of arranging and associating; but this is really a little difficulty, because every one will find, from the smallest beginnings, his own power encrease by exercise, and that his own associations have to him a perfect value above the best associations of another.

CONJUGATIONS.

I can afford but little space to the Verbs. A concentrated Grammar of the Latin Language shall appear, if the idea be encouraged, that shall be comprised in a small pamphlet, comprehending, nevertheless, all the rules of Syntax, Prosody, etc. etc.

An Explanation of the Table, Pl. III. Fig. 1.

Adopt this symbol **X** having $2\frac{1}{4}^3$ places: call it the EXCEPTOR. It is intended to furnish us with *places* for introducing exceptions, that will strike the eye in each conjugation. The top place is for the first conjugation, the left place for the second, the right for the third, the bottom for the fourth.

The FINALS for *every first* person of every tense Indicative or Subjunctive is o or m. (Vide Pl. III.)

The Finals of *every* person in *all* the tenses are—

| | | | | |
|------|--|--|------|---|
| SIN. | { 1 <i>Per.</i> o or m 2.....s 3.....t | Exceptions in the Perf. Tense only | SIN. | { 1 <i>Perfect.</i> 2.....sti 3.....t |
| PLU. | { 1mus 2.....tis 3.....nt | | PLU. | { 1mus 2.....stis 3.....erunt [not irunt.] |

Recollecting these finals, we can use the table of the Conjugations, Pl. III. Fig. 1, and acquire all the active conjugations, and by a regular but small change of letters, all the passives. More will be seen by comparison than by explanation. We shall give, therefore, some of the tenses.

PRESENT TENSE.

AMA—(Amao) Amo—(amaas) amas—(amaat) amat, &c.

MONE—Moneo—mones—monet—monemus, &c.

REG—Rego—*(regs) regis—(regt) regit, &c.

AUDI—Audio—audis—audit, &c.

On a slight inspection of this tense, it will appear that to clear AMO and REGO of their exceptions, we must make greater exceptions in the other two conjugations. The second A which is introduced in AMA, is dropped before a vowel. Its introduction may at first appear to be a disadvantage, but it is only in the present tense, and, apart from the analogy which it presents, it makes all the other and more difficult tenses to be reduced to regularity by its use. In the Fig. Pl. III. the Indicative is distinguished from the Subjunc-

* The exceptor in the O of the Present Indicative reminds us of the I required in regis. Vide Pl. III.

IMP.

2. MONEY

五

4. AUDI-

P. P. R.

FUT.

A circular stamp with the text 'BOBIS' on the left and 'AMES' on the right, separated by a vertical line. The stamp is slightly tilted.



TURRUM
ESSE

TURUS

TUM.
TU.

VISSE

~~MONI-REC.~~

RE RE RE

BA RE
X e X

VI REX VI



VERA
VISSE

○
②
n
o
i
sn
z

Fig. 3.

Fig. 2.

SCURRY

510

AX EX ICIS

tive by a dotted line through, or a dash between the letters. The Indicative is above the line, the Subjunctive below; or, the Indicative is on the left hand, the Subjunctive on the right. With the mere *change of a letter*, we can turn the whole of the actives to passives, thereby concentrating eighteen pages of the Eton Latin Grammar, besides making conspicuous those *differences* which boys find out only after a long time and much experience. *u* was originally *v* in the Latin tongue. Hence, to reduce the Verbs as much as possible to a *common form to the eye*, I have put *v* for *u* in the second conjugation, nevertheless preserving the *sound* of *u*, and always making *eu* equivalent to *u*. The verb *MONEO* has then a regular form, probably its ancient one. *REGO* might be called a secondary verb, but as it stands, I must take it, in order that I may shew the application of the principles to difficulties. *REGO* is changed, in the perfect, into *REXI*. Verbs so frequently undergo a change of this kind in the PERFECT and SUPINE, that they should always be learnt with the meaning of the verb: *e.g.* In learning that *curro* means I run, we should also learn that *curro* makes *cucurri* in the perfect, and *cursum* in the supine. The dictionaries and Chap. III. will help us in this matter. The perfect form is continued in all the tenses that

follow it, except the indicative future, *i. e.* the left hand o at the base of the figure.

It is important to know that all the difficulties attending the use of the Perfect REXI, in the tenses derived from it, are removed by substituting REX for the v that is used in the other conjugations. In the case of other verbs of the third conjugation, we must in like manner substitute the root of the verb *in its perfect form* for the v that is used in the other conjugations, in the tenses derived from the perfect. All real difficulties in the way of learning the verbs are thus removed: a teacher may communicate the whole in an hour; he may use the Grammar as he pleases, but he *must* make the *figure*, Pl. III. Fig. 1, with respect to its localities, the object of mental reference with the pupil, to produce an abiding effect.

PRES. TENSE { AMA...^{*}Ē...M—Amem-(amaes) ames-(amaet) amet, &c.
SUBJUNC. { MONE...A...M—Mones, &c.
REG...A...M—Regas, &c.
AUDI...A...M—Audias, &c.

IMPERFECT TENSE, IND. { AMA
MONE } . . . } BA { The characteristic BA
REG— } . . . } of the tense *indicative*
AUDI— } † e } is contained in the
upper part of the M,
as RE *subjunctive* in
the lower. (Vide Pl.
IV., IMP. TENSE.) } ‡ M-s-t
&c. &c.

* We get these letters from the M in the top of the Fig. Pl. III., where it serves the purpose of the Exceptor, as well as shewing the final. Thus those letters and differences are made prominent which strike the mind only after some experience. At the same time, the *characteristic differences* lying between parts that are *common to all the tenses*, and soon known, makes the whole easy to be learnt.

† The large E in the *third* places of the Exceptor, indicates that an E is to be brought into both *Indicative* and *Subjunctive* moods of the *third* conjugation. The *small e* in the *fourth* place of the Ex. refers to the use of an E in the *Indicative only* of the *fourth* conjugation. This is better represented in Pl. III. Fig. 1.

IMP. SUB.—AMA . . RE . . M Final, &c. &c.

PERF. TENSE
IND. $\left\{ \begin{array}{l} \text{AMA} - \\ \text{MONE} - \\ \text{REX} - \\ \text{AUDI} - \end{array} \right. \begin{array}{c} \text{VI} \\ \text{VI} \text{ } \text{I} \\ \text{VI} \end{array} \right\} \text{Sti} - \text{t} - \text{mus}, \text{ \&c. \&c.}$

PERF.
SUBJ. $\left\{ \begin{array}{l} \text{AMA} - \\ \text{MONE} - \\ \text{REX} - \\ \text{AUDI} - \end{array} \right\} \text{VERI} \text{M Final, \&c. \&c.}$

The remaining tenses may be easily made out from the Fig. Pl. III.; the infinitives also that are between the P and the I; the participles that have their place in the P; the supines that have their place in the S; the gerunds also that have their place in the G. All the present tenses are in a line, the perfects in another, the futures in another. The s of the supine is made to curl round TURUM ESSE and TURUS, that are formed from the supine without breaking the line of the futures, etc. etc.

Much might be said about the advantage of presenting to the pupil so extensive a subject under a form that can be taken in at once by the eye: the *letters*, the *localities*, and the *arrangement*, all aiding the memory. More might be said in explanation of the table; but, if the student study it carefully by his Grammar, what I have said will suffice. I cannot here enter more into detail.

‡ This is the Final M in the IMPERFECT INDICATIVE and SUBJUNCTIVE. (Vide Pl. III. Fig. 1.) In the Passive the only change to be made is the turning this M into R, and using the passive finals.

CHAP. VIII.

G E O G R A P H Y .

IN the application of the principles to Geography, consider,

I.—General Geography.

II.—Particular Geography.

1. The numberless irregular lines that belong to every chart, in the bearings of the coasts and of the rivers, and in the boundaries of kingdoms, render Geography a very difficult study, though in many respects pleasing.

The recollection of the precise position of places can never be expected while the idea of the kingdom or province in which they are is undefined.

Every thing to be acquired must be brought under some type, the outlines of which are well known; then the memory will be treated with effectually, because the powers of reason will be employed. It should be our object to proceed in such a way that what is wanting to the memory the judgment will supply. Take the globe, and draw a circle round it, and divide it into two hemispheres, because only half of the globe can be seen at once; then we have a Northern and a

Southern Hemisphere divided by what is called the Equator. The hemisphere is divided across into two parts of 90° each. The circle of the globe is divided into four quarters of 90° each; or, as we shall take it for general Geography, each hemisphere is divided into four quarters containing 9 divisions of 10° each.

In giving a general and relative view of the earth, I must give some form to the hemispheres, or rather to the globe. We will imagine, for the sake of plainness, that each hemisphere is compressed or flattened into a figure of five sides, *i. e.* four sides and the top, each side containing a quadrant, or 90° . The sides upwards contain only 60° , because the flattened top contains 30° to its centre from each of the four sides. If a large card be used, and the four sides be brought together, it will form a cube without a bottom. The sides, however, need not be brought together, but placed on a table in the centre of a room, as in Fig. 3, Frontispiece; then it resembles the hemisphere of a globe with four equidistant triangular pieces cut out of it. The sides then answer to the four walls of the room where we may delineate particular Geography to correspond with the side of the figure on the table. That figure (call it the Geographicon) may easily contain all that we can possibly need of general Geography,

associated according to the nature of the subject. Whatever mode we adopt, the lines of Latitude and Longitude cannot be dispensed with. As I have arranged them, each 9 lines, or 90° , has its *own character and locality*, and does not form part of an unbroken series of 36 lines, or 360° . When we have filled the walls of one room with particular Geography, *i. e.* Geography more extended and detailed, we can take our figure from the table to another room, and placing it on the table there, in the *same relative position*, we can make the same use of the walls as before, to particularize another country with which we desire to become familiar. We can easily contrive substitutes for the walls of a room, but the principle employed must be the same.

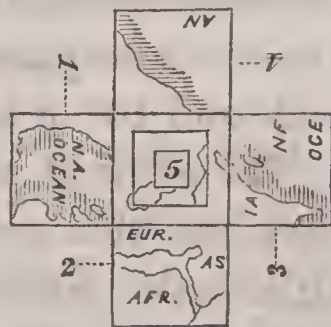
The Geographicon (vide Frontispiece, Fig. 3.) has from the East, West, North, and South of it nine lines *horizontal* to the centre, that are meridians of Latitude. We see also from each side nine perpendicular lines *tending* to the centre,—these are meridians of Longitude. Each *place* in the five subsquares contains 10 degrees of Latitude and 10° of Longitude.

The globe of the Schools contains many more divisions, that are to be learnt by continued repetition only; hence so few retain that which they have learnt. We have now to fix our meridian

line so as to draw the whole of the Northern Hemisphere on the figure which is placed on the table. Use Mercator's projection, and let the meridian of Greenwich be between two sides of the figure, *i. e.* in one of the openings, to correspond with the left-hand farthest corner of the room, then the 180th degree of the figure will correspond with the nearest right-hand corner of the room.

When the *convex* figure is ready, with the Northern Hemisphere drawn upon it, turn it inside out, and the lines, &c. will be on the *concave* part of the figure. It is now to be suspended steadily from the ceiling, or placed on the table like an umbrella, so as to correspond with the sides of each room, as follows :—

- 1.—On the first side of the figure, with the 1st meridian line corresponding to the 1st meridian line of the room, and the left-hand side of the figure to the left-hand wall of the room, is England, part of France, Portugal, the greater part of Spain, and all that part of Africa which is included in Mungo Park's first journey, the Atlantic Ocean, and part of America, including altogether 90°.



- 2.—The second side, corresponding to the opposite wall, includes all places 90° East of Greenwich, viz. Europe, great part of Africa, and Asia as far as Calcutta.
- 3.—The third side of the Geographicon, intended to correspond with the right-hand wall of the room, contains the rest of Asia that belongs to the Northern Hemisphere, and great part of the Pacific Ocean.
- 4.—The fourth side of the figure corresponding to the side at the entrance of the room, has the Pacific Ocean and the North-Western portion of America.
- 5.—The fifth side, which corresponds with the ceiling, including 30° each way to the centre, contains the North of Europe, Asia, America, Iceland, etc. etc.

There is no particular size to be given to the Geographicon. If the drawing is allowed to be on the *convex* surface, greater care must be taken in transferring to the walls, as the sides will not correspond as above.

Particular Geography.

Each place of a subsquare of the figure on the table contains 10° each way, and is imagined to be divided into 4 parts when transferred to the wall. (Vide Frontispiece, Fig. 4.)

We may transfer from the terrestrial Globe, if we need only particular Geography. Each of the four parts or places just spoken of, we may call by some distinctive name, applicable to the country; as, the *field of grain*, the *field of thistles*, or the *field of sand*, &c. These also we may lightly color, as the subject requires. Each field contains 5° each way. England takes up little more than one of these fields when transferred to the wall, or a *sheet of paper* placed on *that* wall. England, Ireland, and Scotland, take up but one of the places of a subsquare of the Geographicon, or 10° . Any number of fields may be drawn on a wall from the corresponding side of the figure, if a very large country is to be delineated. The wall, or paper on the wall, is intended for an *enlarged* or *more minute* representation of a country. The use of this arrangement must at once be seen, as I bring before the eyes of my pupils the *same* country under *two* aspects—one as part of a collected whole, placed in the centre of the room, and learned first; the other as enlarged and detailed, for correct and extensive information.

In the figure on the table *every 10th degree* is marked, on the wall *every one*. This is an original mode of treating Geography. In every other way I have found pupils at a loss to account for the *difference* which they could perceive between the lines of the Globe and of the Maps.

In my arrangement, I have introduced no lines besides those which are used in Geography, and which are given to be learnt by other modes, without any assistance of the kind I have afforded.—In looking over the fields, each of which contains 5° each way, we can generally find some form which the countries or provinces in that field take. Cheshire resembles a hen sitting on an egg (vide Chamber's School-room Map). Hereford looks like a *snail* with its *shell*. Sometimes parts of provinces will make a figure, and so on. My general mode, however, of presenting Geography is, to draw the exports, produce, or characteristic features, under some form, according to the *size* of the province, and in *relation* to the towns, &c. as *points* on that *form* or *object*, and *associated* with it—to associate physical peculiarities, rivers, mountains, &c. &c. with *color*—to mark *social* features with *colors* also, under proper distinctions—in short, to employ in some way *all* those faculties that we possess in common, though differing in degrees of power.

†The most circuitous course of a river may be

* Each field must be considered as forming *one of four* in counting the degrees or places, as they are reckoned 10° upwards and 10° across. (Vide Frontispiece, Fig. 4.)

† This occurred to me from the values attached to the *directions* of *lines* in extended Algebra, by which quantities called impossible, as $\sqrt{-1}$, &c. &c. are made possible.

remembered by assigning to different directions of a line a *literal* value. The directions of any lines may be treated in this manner. It would be necessary, and at the same time easy, to adopt a scale of measurement to secure the full value of the principle. So diversified is the application of Ideatypics to Geography, that I must leave this subject, or furnish examples that our limits will not allow.

CHAP. IX.

PROSE AND POETRY.

DUGALD STUART, speaking of the assistance rendered to public speakers by the topical Memory, in recollecting the different parts of his discourse, considers the accounts given of it by the ancient rhetoricians, as abundantly satisfactory, and makes the following pertinent observations on the subject: "Suppose (says this author) that I were to fix in my memory the different apartments in some very large building, and that I had accustomed myself to think of these apartments always in the same invariable order. Suppose, farther, that in preparing myself for a *public discourse*, in which I had occasion to treat of a great variety of particulars, I was anxious to fix in my memory the order I proposed to observe in the communication of my ideas. It is evident, that by a proper division of my subject into heads, and by connecting each head with a particular apartment, (which I could easily do, in conceiving myself to be sitting in the apartment while I was studying the part of my discourse I meant to connect with it,) the habitual order in which these apartments occurred to my

thoughts, would present to me, in their proper arrangement, and without any effort on my part, the ideas of which I was to treat. It is also obvious, that *a very little practice* would enable me to avail myself of this contrivance, without any embarrassment or distraction of my attention."

Mr. Stuart cites an example of a young woman, in a very low rank of life, who contrived a method of committing to memory the sermons which she was accustomed to hear, by fixing her attention, during the different heads of the discourse, on different compartments of the roof of the church.

We may adopt the same plan with advantage, or we may arrange a discourse on some imaginary form, by the aid of symbols that spring up in our mind at the time ; as, for Justice, a pair of scales, etc. etc. In committing prose to memory, the particular chapter should be carefully considered once or twice ; then, selecting the principal images, form a narrative by combining them, and proceed gradually with a few lines at a time.

In committing to memory the frequently minute descriptions of poetry, we are aided by images, comparisons, allusions, figures, and the personification of moral subjects, so that we may take the stanza generally as it is, whether of four, six, eight, or ten lines, etc. In some kinds of verse it is better to take two lines. We must then associate

each stanza with its principal image, and assign its locality; then, put the first word of every line *on* its object by an imagined transfer, because in repeating poetry the first word of a line is most difficult to be recalled. By these means, we may recite the *whole poem* in regular order—repeat *any* stanza by recollecting the number of its locality—determine the numerical position of *any word* in the poem—say how often *any particular* word occurs—or recite the whole of the poem *backward*. As this, however, serves no useful purpose, I shall at once give an example of Ideatyping poetry, for *general* application, from John Malcolm's Stanzas on "The close of the year."

"Surely there is a language in the sky—

"A voice that speaketh of a world to come:

"It swells from out thy depths, Immensity!

"And tells us this is not our final home.

"As the tossed bark amid the ocean's foam,

"Hails, through the gloom, the beacon o'er the wave:

"So from life's troubled sea, o'er which we roam,

"The stars, like beacon lights beyond the grave,

"Shine through the deep, o'er which we hope our barks to save."

I propose to consider the matter in a way truly Ideatypic*. Reading the stanza carefully, select an *object* for the *whole* of it—a *type*, if nothing

* I mean, of course, in connection with the old *proximating and locating principle*. "Several small pieces of poetry may be readily inprinted on the memory by *placing* them *on* the pictures or furniture of the wall of a room with which we may be acquainted."—FENAIGLE, 1812.

else appears. In this instance, *personify* "Im-mensity," and *put* him in *any place* you prefer. The idea admits of a figure reaching to the "sky." We may further suppose him to be writing on it the word "surely" in the characters of "language;" and then, that he has a "voice" that "speaks," "swells," and "tells." These three words, in their natural order, connected with the personification, prompt to the ideas in connection with them, and shew us also how the lines commence. Pass to the next objects, "bark" and "foam," and place them at the feet of our personification. The bark has on its stern the first word of the line "As." Beyond the *place* we assign for our imaginative waves, let there be a "beacon." Let "hails," the first word of the line, be written upon it; then, standing by the beacon, let us, *in our thoughts*, look out again upon "the troubled sea;" and then imagine "we roam" there, our barks having on the stern "So," the first word of the line. We have now stepped from the beacon to the ship, and are on the look out for "the stars, like beacon lights beyond." "Grave," and all the rest of the words, will be supplied from two or three times reading the lines in connection. "Shine," the first word of the last line, is emphatic, and follows readily from thinking of the stars. We now turn our thoughts again to ourselves, as though we

really were on a little “deep” where we had agreed to place it. In such a position, we can at once call up the ideas “Our barks we hope to save.”—This process the mind may pursue without being able to describe it. It is evident, the passing from the text to miniature objects and types, must give prominence, as well as order, to the several points. Some such process, without name or directions, *has been unwittingly followed* by the majority of those whose memory has been most active. I have shewn that the reader can pass from abstractions to things tangible without marring the beauty of the lines; and a reflecting mind will perceive that most of his permanent associations are formed in the same way. Apparently incongruous and ridiculous ideas often rise spontaneously in our minds, and continue there. This is more the influence of habit than anything else, and ought to be corrected. Hence it is proper to exclude the wit and comicality that some introduce in order to assist the memory. It seems to me a species of trifling, detrimental to education as a discipline of mind, and subversive of the requisite sobriety of thought.

CHAP. X.

CHRONOLOGICAL TABLE OF THE KINGS OF ENGLAND.

WE have in this table a new mode of associating, of great *practical* utility. The mere *names* of the kings, where there are several, are not generally sufficient to bring up any word or phrase in connection, because in almost every case each name is one of a *class* of names, constantly occurring in ordinary affairs, or they are words which in themselves present nothing to lay hold of. On the other hand, a phrase simply is not enough to lead us to recollect a king's name, unless the *name be typed and brought in with the phrase*, or the phrase have some connection with a well-known fact in that king's reign. The name, therefore, is first given, or a type of the name, whose *initial sound* is like the initial sound of the name. The *number of consonants* in the word shews us the number of the king of that name, when there are more than one. There are but *one or two words* to be remembered for each date, which prevents that liability to displace the words, as in phrases where only the initial consonant of a word represents a

figure. The date is brought up by the fact—the fact by the date—the *name by both*, because the *type* of the name is generally interwoven with them. Thus there is a *triple association* formed which locality renders more available. A symbol is taken for each royal house, as in Pl. II., also p. 117, and the several points about it used for *locating* the kings.

Of the words in Italics, the first is the name, the others the date.

WILLIAM I.....1066.....— *Oppose my aim.*

Harold and William both aimed to possess the throne.

WILLIAM II.....1087.....*Weep...passer on.*

We can suppose that some “passer on” shed a tear for this profligate king, conveyed to his burial-place in a cart.

HENRY I.....1100.....*In...Bibacious.*

Henry’s son was lost at sea, through the “bibacious” sailors that were “in” the ship.

STEPHEN.....1135.....*Stepping...by battle.*

With Stephen and Matilda, battles were “stepping” stones to thrones.

HENRY II.....1154.....*End...by appealing.*

Henry’s children “end” their disobedience “by appealing” to arms.

RICHARD I.....1189.....— *be brave.*

Saracen mothers would exhort their children to “be brave,” like English Richard, or scare their fractious children with the terrors of his name.

JOHN.....1199.....*Jointly...a booby, a wave.*

John was a booby, unstable as water, escaping the waves of the Wash only to end his life more pitifully.

HENRY III.....1216.....*Inept...a bag by him.*

Unfit for his station, he pillaged his subjects to lavish wealth on worthless minions; hence the bag placed beside him.

EDWARD I.....1272.....— *a bygone hoax.*

This refers to the stratagem employed by Edw. I. to reconcile the Welsh to the English government.

EDWARD II.....1307.....*Eddy...beats on.*

This king, as an “eddy,” runs counter to the great stream of public opinion, and still “beats on,” till his violent passions and weak intellect whirl him into ruin.

EDWARD III.....1327.....*Dread...be it gone.*

A sweeping malady filled the kingdoms of Europe with "dread." 50,000 persons perished by it in London alone.

RICHARD II.....1377.....*Rise...pay to none.*

We can easily imagine this to have been said concerning the poll tax by those about Wat Tyler, who, with others, led on 100,000 rebels.

HENRY IV.....1399.....**Enguard...boat, wave.*

With all the cautiousness of an usurper, Henry was ever in the midst of alarms: he was like a "boat" tossed upon the troubled "wave."

HENRY V.....1413.....*Encounter...by each path.*

The retreat of Henry was cut off at Agincourt; but, as a conqueror, he cleared a way home.

HENRY VI.....1422.....*Encounters...being quick.*

Great reverses in France are followed by the civil warfare of the English. In twelve battles the ambitious Margaret of Anjou sustained the fortunes of Henry, her weak-minded but inoffensive husband.

EDWARD IV....1461.....*Education...being my hope.*

We may suppose many hopes were raised in the disastrous times of Caxton, when he introduced the printing-press under the patronage of the Abbot of Westminster.

EDWARD V.....1483.....*Delegates...butchered.*

"Delegates" deputed by their uncle, (afterwards Rich. III.) "butchered" the two young princes, Edw. V. and his brother.

RICHARD III.....1483.....*Rigour...be shared.*

It was meet that this usurper should share the fate of those upon whom he had exercised so much "rigour."

HENRY VII.....1485.....*Indictment...by a churl.*

Empson and Dudley, two lawyers, were instruments, in the frequent attainder of the nobility and others, to gratify the miserly spirit of this king.

HENRY VIII....1509....*Entanglement...place away.*

The "entanglement" and subtilty of religious disputes, we would "place away" from such a bigot.

EDWARD VI.....1547.....*Declination...pollution.*

It may be that he *declined* naturally: it may be that the poisoned and polluted chalice took him away so early.

MARY.....1553..... ———— *apply a light.*

Mary's love of blazing faggots is an oft-told story, appended to all popular tales of horror.

ELIZABETH.....1558..... ———— *apply lore.*

This Queen was one of the most learned ladies of her time, and seems to have applied learning to the advancement of her people.

The mode is now varied, for the sake of example. A *type* of the name may be used; as, for JAMES, a CHAIN; for JAMES II., CHAINS; or an extended or explanatory idea in connection with the chain. We may also omit 1, for one thousand, in every instance, using only the three remaining figures.

JAMES I. (*a chain*) 1603 (*missed*).

In the gunpowder plot, the traitors “missed” the completion of their designs: they could not carry out their “chain” of schemes.

CHARLES I. (*a charge*) 1625 (*Macule or macula*)

The final “charge” brought against Charles, is a foul stain (macule) on the English annals.

CHARLES II. (*charges*) 1660 (*may amaze*).

This reign was rife with “charges” of treason—Protestant and Catholic plots and perjuries, sufficient to amaze right-thinking men.

JAMES II. (*chains*) 1685 (*a moral*).

This is the “moral:”—When kings attempt to *enchain* the thoughts *as well as* the bodies of men, they must expect a popular outbreak, as in 1688.

WILLIAM III. (*Willows 3*) 1687 (*mourn*).

Willows typify the dejection of this king when sorrowing after his queen, Mary, who died of small-pox.

ANNE (*one*) 1702 (*nosegay*).

Viewed in a private light, the memory of her virtues is like a “nosegay’s” sweet perfume.

We may continually vary our mode of proceeding, with perfect security as to the result. Systems

hitherto propounded may contain right principles, yet are applied without reference to their general bearing on all the varied peculiarities of different minds.

I consider this System universal in principle, capable of a general as well as of an infinitely diversified application; yet, like all other systems, necessarily inapplicable to the wants of all minds by the skill of any one mind.

HOUSE OF BRUNSWICK.

GEORGE.....1712.....(*one page*).

GEORGE.....1727.....(*one gun*).

GEORGE.....1760.....(*one mace*).

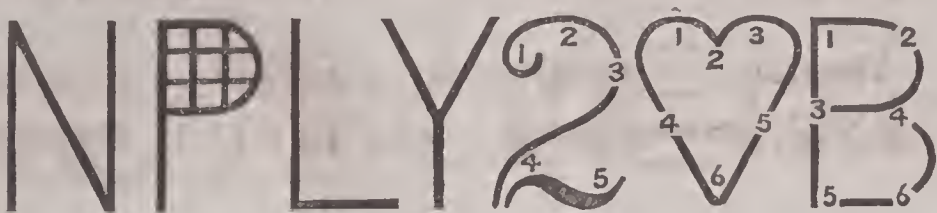
We may imagine these names severally *written* on each object in connection. *Each object has reference to a fact*: “one page,” to the green book of the South-Sea scheme; “one gun,” to the terrific warfare of the times of Geo. II.; “one mace,” to the magisterial influence required to check revolutionary influences in the time of Geo. III.

GEORGE IV.—WILLIAM IV.—VICTORIA.

THUS:—

20 30 40—2.

I want the reader to see that there are various original appliances and contrivances, *some* easier to *him* than others. The following symbols (on a larger scale,) for each royal house, and the *points* in them, will serve to *locate* the *phrases* or the *objects* in connection with each king, according to the peculiar character of his own mind. (Vide p. 72.)



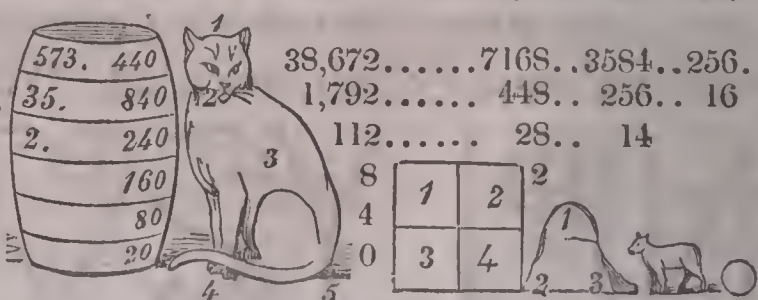
TABLES, &c.

THE *natural* points, before adverted to, will be found to give an extraordinary distinctiveness to the recollection of numerical data. We often recollect parts of a subject by recollecting the *parts of the page* they occupy. If this be true, (and I think no one would dispute it,) the turning of figures, which are always difficult to remember, into words indicative of an action, an object, or a quality, and *associating it* with a *certain point*, of easy reference, and to which we have a *clue*, as, by *mill* we think of *mile*, &c., is indeed valuable. I have designated the points *natural*, because they *belong* to the objects, and do not partake of the usual arrangements of other Mnemonists. I have also preserved the tables with their several denominations entire. Grey and Lowe reduced their tables to *one denomination*, to render their systems available: under such a form, they are of little practical utility.

MEASURE of WEIGHT, in its most extended form.

This Weight is used in all commercial transactions.

| | Ton. | Cwt. | Qr. | St. | lb. | oz. |
|----------------|----------|-------------|--------|--------|-------|--------|
| POINT 1..Dr. . | 573. 440 | 38,672..... | 7168.. | 3584.. | 256.. | 16 Dr. |
| „ 2..Oz... | 35. 840 | 1,792..... | 448.. | 256.. | 16 | |
| „ 3..lb. . | 2. 240 | 112..... | 28.. | 14 | | |
| „ 4..St. . | 160 | 8 | | | | |
| „ 5..Qr... | 80 | 4 | | | | |
| „ 6..Cwt.. | 20 | 0 | | | | |



The illustrations include a barrel with horizontal staves, a cat sitting and looking up, a 2x2 grid with numbers 1, 2, 3, 4, a mountain with a peak labeled 1, and a dog standing next to a circle. Numbers 1 through 5 are also placed near the cat's body.

MEASURES—TON. CWT. QR. ST. LB. OZ. DR.

For which are substituted objects, or types, *in their order*, each having the requisite number of points, on which we may *paint, draw, or write* the objects, or words, as they arise, from the letters which are used instead of the figures of the above table.

OBJECTS—TUN, CAT, QUARTERS, STONE, LAMB, OUNCE.

The DRAMS have the *first* place in *all* the objects of this measure. The OUNCES, the *second* place in *all* the objects. The rest follow in order.

We may add the TROY GRAINS to the Table thus:—The *inside* of each *object* is *unoccupied*, imagine, then,

| | | |
|------------------------|----------|--|
| TROY GRAINS in 1 TON - | 15680000 | (balmy roses) to be <i>inside</i> the <i>Tun</i> . |
| „ 1 CWT. | 874000 | { (nourishes), with reference to a |
| „ 1 QR. | 196000 | { <i>point within</i> the <i>Cat</i> : so of the rest. |
| „ 1 ST. | 98000 | { If there be more than two ciphers |
| „ 1 LB. | 7000 | { at the end of <i>several</i> rows of |
| | | { figures, you may <i>agree</i> to omit |
| | | { two or three <i>always</i> . |

Particular Weights belonging to this division.

1.—WOOL WEIGHT.

| | | | | | | cwt. gr. lb. | |
|---------------|-------------------|-----------|--------|---|----|--------------|----|
| 1st place. 14 | (<i>badge</i>)* | Pounds... | 1 St. | = | 0 | 0 | 14 |
| 2nd „ 2 | (<i>ox</i>) | Stones... | 1 Tod | = | 0 | 1 | 0 |
| 3rd „ 6.5 | (<i>mill</i>) | Tods.... | 1 Wey | = | 1 | 2 | 14 |
| 4th „ 2 | (<i>ox</i>) | Weys... | 1 Sack | = | 3 | 1 | 0 |
| 5th „ 12 | (<i>pack</i>) | Sacks... | 1 Last | = | 39 | 0 | 0 |

Draw a Wool-pack, with five points, for the object in this Weight.

The mere writing of the figures on a board *according to the arrangement of the points*, will suffice if the Table contains no *high* numbers.

2.—TROY WEIGHT.

| | | |
|------------------|-----|--|
| 24 grs... 1 dwt. | } { | 24 grs. (<i>cash</i>)..... 1 dwt. |
| 20 dwt. . 1 oz. | | 480 „ (<i>hedgerose</i>)... 1 oz. |
| 12 oz. . 1 lb. | | 5760 „ (<i>all in a mass</i>)... 1 lb. |

Cash is easily associated with pennyweights.

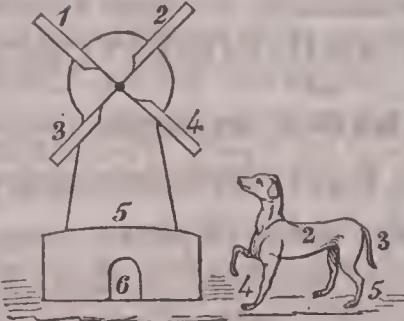
Hedgerose, the size of an ounce, and sprinkled with yellow grs.

All in a mass, as we may suppose the grains to be in a pound.

* 8 lbs. 1 Stone of Meat. I might use for this the word RePaST, similar in some respects to the method of Grey and Lowe, yet involving important distinctions: 1. My scale of numbers is extended to all the letters of the alphabet, so that words may be chosen with which we are quite familiar; *these* words we use instead of technical ones. 2. The association of parts is *always* to be regarded, as in this instance between REPAST and MEAT, in which there is a *natural connection of ideas*; so that in thinking of the *one*, we *must* think of the *other*, and *by this* of the *third*, i.e. the figure 8.

MEASURE OF SURFACE.

AN EXTENDED TABLE.

| | | OBJECTS. | |
|-----------------|---|------------------------|---------------|
| POINT 1..Inches |  | Mile (<i>a Mill</i>) | with 6 points |
| „ 2..Feet | | Acre (<i>a Cur</i>) | „ 5 „ |
| „ 3..Yards | | Rood (<i>a Rod</i>) | „ 4 „ |
| „ 4..Poles | | Pole (<i>a Pole</i>) | „ 3 „ |
| „ 5..Roods | | Yard (<i>a Yard</i>) | „ 2 „ |
| „ 6..Acres | | Foot (<i>a Foot</i>) | „ 1 point |

| | Mile. | Acre. | Rood. | Poles. | Yards. | Feet. |
|-------------------|----------------|-------------|-------------|----------------------|--------|-------|
| Point 1. Inches.. | 4014,489,600.. | 6,272,640.. | 1,568,160.. | 39204.. | 1296.. | 144 |
| „ 2..Feet ... | 27,878,400.. | 43,560.. | 10,890.. | 272 $\frac{1}{4}$.. | 9 | |
| „ 3..Yards.. | 3,097,600.. | 4,840.. | 1,210.. | 30 $\frac{1}{4}$.. | 1 | |
| „ 4..Poles .. | 102,400.. | 160.. | 40.. | 1 | | |
| „ 5..Roods.. | 2,560.. | 4.. | 1 | | | |
| „ 6..Acres .. | 640.. | 1 | | | | |

Make the figures into words and locate them, or the objects they denote, in their order, on the several points of the types or symbols.

In the following useful Table of the CUBIC INCHES contained in the Measure for Liquids, Corn, and Dry Goods, is shewn the various phrases that can be made to aid the memory in connection with *subjects*, or *words*, that have the *least tendency* to produce associations.

| | | | | |
|---------------|---|-------------|------------|---------------------------------|
| Cubic Inches. | { | 17745,500 = | Qr.....1. | <i>Pay any one gill losses.</i> |
| | | 2218,190 = | Bush...2. | <i>Quick bear above us.</i> |
| | | 554,548 = | Peck ..3. | <i>A lolling lounge.</i> |
| | | 277,274 = | Gal. . .4. | <i>Can any one quench you.</i> |
| | | 69,318 = | Qt.....5. | <i>Move the beer.</i> |
| | | 34,659 = | Pt....6. | <i>I touch my life.</i> |
| | | 8,665 = | Gill...7. | <i>I rue my meal.</i> |

We may remember the first phrase in connection with Qr., by the *idea* that the *greatest* measure (the Qr.) should be made up when there is the *smallest* (the Gill) deficiency. The 2nd, by the old practice of bearing a *bush* above the door, to indicate the sale of wine. The 3rd, by imagining a "lounge" to be on a *peck* measure. The 4th refers to the unquenchable thirst of the drunkard, even if he should be supplied with *gallons* of ale. The 5th, to the *quart* pot, *most frequently* moved about with beer. The 6th, to the frequent calls for *pints* of wine, and its *injury* to the *vital powers*. The 7th, to that which is frequently the only meal of the drunkard, the *gill*, which he will rue having received.

Water { 20 = Peck (*case*) } This and other tables, of what-
 lbs. Av. { 80 = Bush. (*a rose*) } ever kind, may be associated
 { 640 = Qr. (*meshes*) } with ease, according to each
 one's fancy or skill.

LATITUDES AND LONGITUDES

OF

REMARKABLE PLACES.

The longitudes from the Royal Observatory at Greenwich.

The figures will always occur in *pairs*, except in two instances: 1st, when the *longitude* is above 100; 2nd, when the degrees, or minutes, are in any case less than 10. The few of the first which occur may be recollected by the association of *color* with the *name* of the town. In the second case, whenever the *first of a pair* is s, or any consonant that represents O, it is of no value. In changing the phrases in italics into figures, we mark off the first four consonants for Lat. and the first two of these four for degrees.

ATHENS { Lat. 37° 58' N. } *Tune a lyre quitting me.*
 { Lon. 23° 46' E. }

The departed glory of Athens is a theme for the plaintive song of the traveller.

BERLIN { Lat. 52° 32' N. } *I like it equipped quick.*
 { Lon. 13° 22' E. }

This refers to the rather deficient industry of the inhabitants, and to a coach of a particular form, a Berlin.

BRUSSELS { Lat. 50° 51' N. } *A loss, all passing quick.*
 { Lon. 4° 22' E. }

The King of Holland *was* King of Brussels; but, by a rapid political change, this city became the capital of a separate monarchy.

CALCUTTA { Lat. 22° 35' N. } *Cock tell our hour come.*
 { Lon. 88° 26' E. }

To rise at the "cock crowing" is well understood. The cock is said to be indigenous to India.

CONSTANTINOPLE { Lat. 41° 1' N. } *Ships back reeled.*
 { Lon. 28° 53' E. }

The Dardanelles, called the keys of Constantinople, are four castles, two of which were built by Mahommed IV. to protect the Turkish fleet from the Venetians.

CONCLUSION.

I WOULD add a few words, in conclusion, to the many examples I have given. Suppose you wish to study Botany, Natural History, Chemistry, Physiology, Anatomy, or any branch of Natural Philosophy, or any thing more abstract, as Logic, etc. Your first object should be to select a room or a series of localities, or depend on association only, if you please. Then read your subject *carefully*, and endeavour to form some ideas of your *own* upon it. After this, select the necessary *tables* or *data* of the science, and put them into some *familiar* form, or change them into *objects*, or view them under the form of some objects that you are pleased to select, or put them *on* objects *connected* with the subject you are studying, or *make* of them something artificial that shall contain a given portion of a subject, or *locate specimens*, as in Botany; when this is not practicable, *draw* the specimens and locate them.

Various modes may be resorted to. In Anatomy, the muscles and their points of attachment, the arteries, veins, &c., have their relative position, and only need associating. The various symptoms of disease may be associated as easily as the heads of a discourse. Locality, Number, and Associa-

tion applies to *every* subject, and in their application the *ingenuity* of the pupil is well exercised. Natural Philosophy has some parts or objects more *prominent* than others—some *differences* or *points of agreement* that may be laid hold of—something *striking* or *well known*, that shall serve as a *centre point* to hundreds of facts that in their associated form may be located. General Grammar has its nine places, in which objects can be put, and *on* which can be written, or with which can be *associated* much more than is necessary to be known. Logic, with all its *forms* of reasoning, can be associated. He that can use logic, has ingenuity enough to associate. Chemistry has in its affinities typical chains: to its *numeral data* our chapter on Number applies: to the *divisions* of the subject our chapter on Locality applies.—Association will provide various forms and connections in the *concentration* of the matter.—Natural History has, in the *names* of the Orders, sufficient points for association, according to Case III. and the example given. In short, methods have been detailed, as far as generalizing principles will allow in this small treatise.

Finally, to shew how *practice* will help any one to associate with more or less ease, according to his ability, I would mention the case of one of my pupils, aged 12, who had to associate the whole of the history of Charles I. with the capitals con-

tained in the name of the king. In his progress, he came to the R in CHARLES, and with this he had to connect the principles of the three parties in England as follows : “ The moderate *Royalists* were for reducing the prerogative within proper bounds, but for preserving monarchy and episcopacy ; the *Presbyterians* were for preserving monarchy, but abolishing episcopacy ; and the *Independents* were for abolishing both monarchy and episcopacy, and establishing a republic.” The R contains three parts, said he,—the *upright*, the *circular*, and the *tail piece* ; the *last* taken away leaves a P ; the last *two* taken away leaves an I. The Royalists will have the R complete, but smaller. The Presbyterians will have only the P (their name directs us as to what they would exclude). The Independents will have only the I, and dispense with the other two parts. The letters R, P, I, are the initial letters of the three bodies, and thus lead us from a point as it were to all the matter in connection. Nothing like this could have been done without the *application* of the pupil. He that expects to *know any subject* from merely reading or studying this book, has made a great mistake as to its nature ; and he that imagines difficulties are *now* to be surmounted without his own application, had better go and learn a few lessons of nature and her operations, in connection with all that man has power to achieve.

APPENDIX.

A.

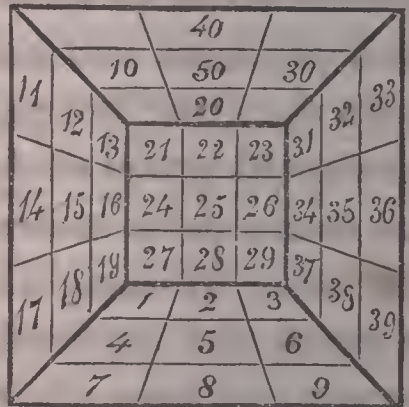
THE Bardic Traditions, moulded into the regular form of Triads, and annually recited in public by the ancient Britons, shew the early application of the Ideatypic principle. The following example of a *preceptive* Triad will shew the manner in which a *visible object* was united to a *well known duty* or practice, and connected with a *moral maxim*, which thus was fixed more firmly in the memory. The translation of a Triad is given here.

'Mid the snow, green plants arise ;
All are bound by Nature's ties :
Anger dwells not with the wise.

APPENDIX. B.

THERE are those who can hardly bring their minds to *localize systematically*, i. e. to put anything to be remembered in any *given place* ; and yet every day's business is similarly managed, though without method. This is through deficient education. There are those also who have not the faculty of localizing *in any great degree*. For these I have a room very simple in its divisions ; so that while the division into 100 places is suited to the student, the division into 50 is suited to the every-day requirements and wants of ordinary men.

The lines represented in the wood-cut are to be regarded in practice as *imaginary*, not *real*, and as furnishing us with 50 places. We begin at the floor, instead of the roof, for places 1 to 9. The left-hand, or *first wall*, has places 11 and upwards, including 19. The *second* or front wall has places 21 to 29 inclusive. The *third* or right-hand wall has places 31 to 39 inclusive. The *fourth** wall with the door, the position of the spectator, has places 41 to 49 inclusive. The ceiling, as shewn in the wood-cut, has the 50th place in the centre, and its four corners only unoccupied.



If we need a second room, it is divided in precisely the same way. For, if we wish to reckon places 50 to 100, the place in the second room is shewn from the first, by adding 50 to it ; e. g. the *place* which is 31 in the first room, is $31 + 50 = 81$ st

* The fourth wall could not be represented in the wood-cut.

in the second. Again, the 44th place in the first room is $44+50=94$ th in the second. This arrangement may be soon learnt and applied in connection with other parts of the system. The simplest division to which we can arrive, is the floor divided into 9 places, the seat of the units. We have in this also the *law of the series*, and we are able at once to *determine the relative place of every figure*, more especially in my division of one room into 100 places. There can be no difficulty in determining the situation of *any* figure, as the *fives* are *uniformly in the centre*—the *threes* *always occupy one corner*—so also *every* other figure occupies its *relative place*.

Students should often ask themselves questions similar to this, as an exercise: On what wall, &c. shall I find such a number?

APPENDIX. C.

IN constructing a scale of numbers, many important considerations were to be attended to. Among others, to join efficient with inefficient letters—those that are more frequently found with those that are less common. L, M, N, R, are letters of great power, and severally represent 5, 6, 7, 8. Other letters of less power, or of a different character, are placed in groups, classified principally with a view to ready and extensive combination, in accordance with certain philological laws. Certain combinations of articulate sounds are incapable of being pronounced; hence a rule arises, that “Two (or more) mutes of different degrees of sharpness and flatness, are incapable of coming together in the same syllable.”—*Latham*. Without attention to this, then, there might have been a very unequal distribution of the numeral representatives, instead of my present very extended means of operation in making words and phrases.

We have therefore put *r* and *v* together, as much also for the ease with which these similar sounds may be remembered, or changed the one for the other. But *ph* and *f* are identical in many words, to the ear, though not to the eye. *gu* and *r* are often identical. Hence, to a certain extent, the reason of the groupings in the scale, page 77. Fig. 3, Pl. II. is very easy to learn, and may be used as less extended than the scale, but it is much less efficient. A further view of the relationship of letters is presented here.

(Hard) Sharp -- P....T....K....S....F

(Soft) Flat -- B....D....G....Z....V, &c.

k and *g* were better placed apart, on account of sound. In evolving what is currently called Grimm's law, Comparative Etymology presents us with the frequent *interchange* of similarly enunciated letters. I have, therefore, while attending to other considerations, attempted to join those consonants together which are most nearly related, as *t*, *d*, *th*.

I will now give some help to the recollection of the extended scale, p. 77. Take nine symbols, each *made out of a letter or two which belong to the place designed for the symbol*, and with each symbol associate the objects or words that belong to its own place, thus :—

| | | | |
|---|------|-----|-----|
| | HOPE | OAK | IDA |
| S | AGE | LEO | EMU |
| | INO | ROE | YEW |

0. S, the initial letter of serpent, may be the symbol, or a serpent that *hisses*, and enunciates the sounds c, s, z, and sc as s.
1. Near the symbol *Hope* (P)* imagine a *bee* (B) flying.
2. Near the symbol *Oak* (K) imagine an *axe* (X) and *cask* (C and SK), and carve *Quick* (Q and CK) CH and GH hard, on the *Oak*.
3. Imagine yourself to be *at* (T) *the* (TH) mount *IDA* (D).
4. Near the symbol of *age* (G) *personified*, let there be a *jay*, uttering TI, SI, ZI, pronounced as SH. On the foot of age there might be a *shoe* (SH), and written on this TV and SV, pronounced as SHU.
5. The symbol *Leo*, or *Lion*, (L).
6. The symbol *Emu* (M) a bird.
7. The symbol *Ino* (N), a female in ancient mythology.
8. The symbol *Roe* (R).
9. The symbol *Yew* (W) may have attached to it *Ivy* (V) that a *Foe* (F) tries to pull down. We might further imagine PH and GH, pronounced as F, to be chalked on the back of the foe.

These nine symbols will be very serviceable as points of attachment in connection with these numbers, when we wish to use them. We might extend symbols to *all* the places of a room, by taking something as a symbol that the *figures* of each place would furnish. If our symbols were all things that we could suppose animated, they would be preferable; mythological characters, for instance, or such personifications as Wisdom, Justice, Peace, &c. In short, available modes may be greatly multiplied. It is left to the ingenuity of the learner to carry one out for himself.

* The letters in parentheses are the letters of the *numeral scale*, p. 77, for which the words preceding them are placed.

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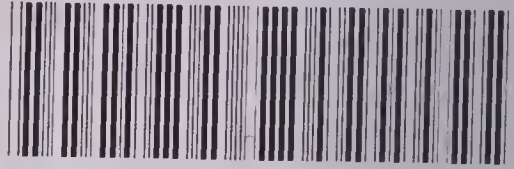


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